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BOOK II.

NORTH AMERICA

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REAL GEOGRAPHY. BOOK II

NORTH AMERICA

BY

J. FAIRGRIEVE, M.A.
LATELY READER IN THE METHODOLOGY OF GEOGRAPHY, UNIVERSITY OF LONDON
FORMERLY GEOGRAPHY MASTER WILLIAM ELLIS SCHOOL
AUTHOR OF "GEOGRAPHY AND WORLD POWER," ETC.

AND

ERNEST YOUNG, B.Sc.
FORMERLY HEADMASTER OF THE COUNTY SCHOOL, HARROW
AUTHOR OF "SOUTH AMERICAN EXCURSION," ETC.

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1949

REAL GEOGRAPHY

by

J. FAIRGRIEVE, M.A., & ERNEST YOUNG, B.Sc.

Book I. Visiting South America, Australia and New Zealand.
Book II. North America.
Book III. Africa, and Southern Europe.
Book IV. Asia
Book V. Europe
Book VI. The British Isles } *In Preparation.*

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PREFACE

The series may, on a cursory glance, appear little different from other school textbooks of geography, but it has a number of unusual features.

(1) The *essential* part of each " chapter " is the set of questions or exercises at the end entitled "Work to be done." They correspond to "examples" in an arithmetic book. The text and pictures are intended merely to supply material by which boys and girls may answer the questions and find out things for themselves. The questions are not questions on what has been learned ; they are not "test" questions. They are intended to send the pupils back to the chapter to re-read it with the object of finding out what is said in the text, *i.e.* they encourage real reading and learning.

(2) Each chapter deals with a particular real place. Generalisations are made only after a particular place has been studied. Material is provided in order to make such generalisations reasonable. In fact, the teaching maxim " *From* the particular *to* the general " is observed.

(3) The pictures form an essential and integral part of each chapter. They are not merely illustrations or embellishments but fundamental real material on which the text is based, and which is used in the work to be done. Some of them have been specially taken and all have been selected with great care.

(4) While each chapter is complete in itself it contributes to the development of a coherent whole. The scheme on

which each book is based appears at the end in a Summary which shows the relation of each chapter, and of the contents of each chapter, to the whole.

(5) The subject-matter has been kept as simple as possible, and an enormous amount has been omitted that some teachers may consider necessary. But an attempt has been made to avoid sloppiness at all costs and to make the study of geography worth while.

(6) Each book is intended to be used for half an academic year. The areas and subjects dealt with are given at the end of each. While the arrangement and general treatment are regional, opportunity is taken to deal with physical and economic geography ; the chief products are all described where it is most convenient to do so. Six books cover the world in three years.

J. F.
E. Y.

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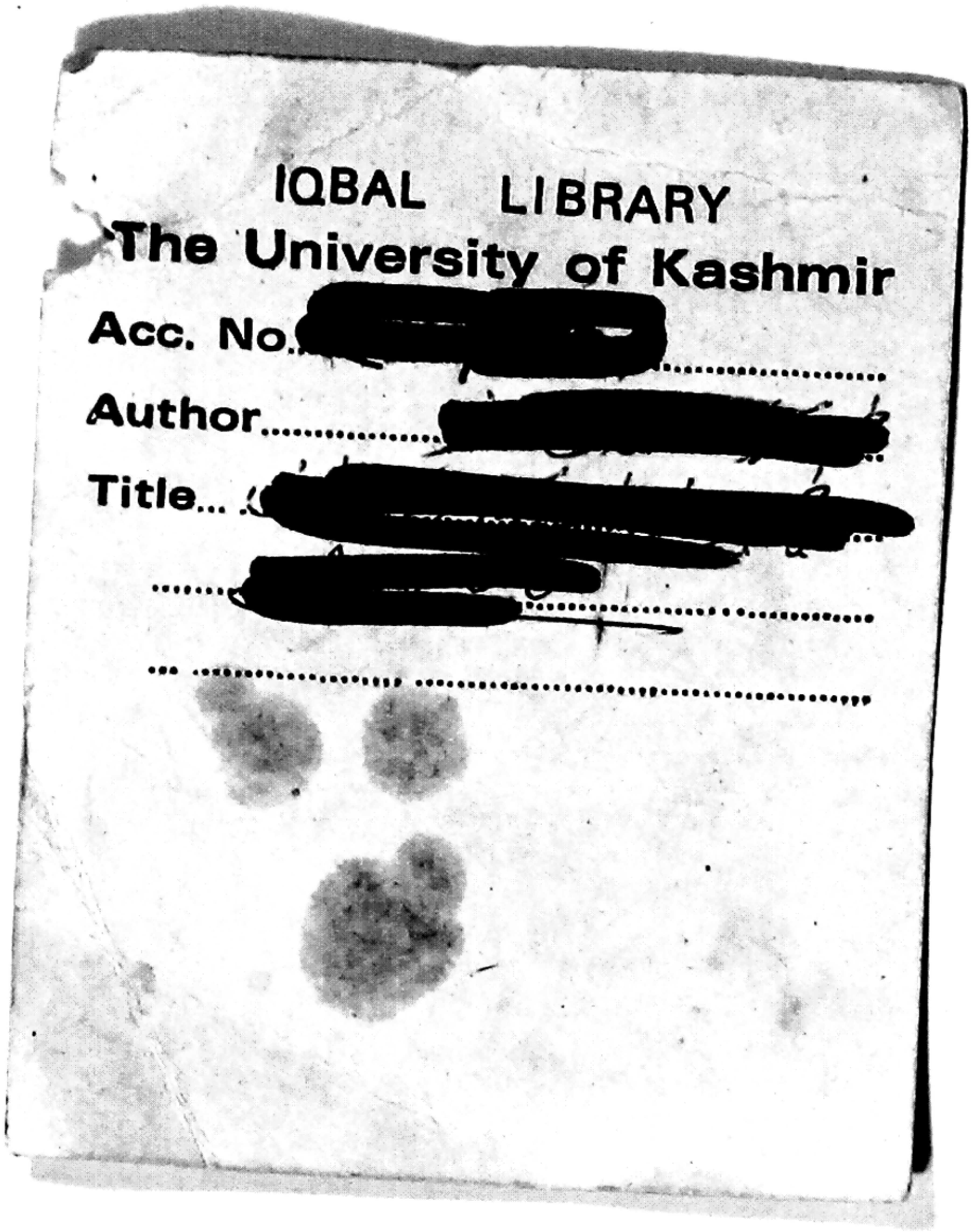

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BOOK II

CHAPTER I

THE ESKIMO OF BAFFIN LAND

On a map of North America find the following as you come to them in this chapter : Baffin Land, Labrador, Davis Strait, Hudson Strait, Hudson Bay, Greenland, Mackenzie, Alaska.

In Book I we learned of people who live in different ways in South America, Australia and New Zealand. In this book we shall learn of people whose homes are in North America. We shall begin with those who dwell where it is very cold. We are going to visit some Eskimo who live near the middle of the east coast of Baffin Land. Here, as along all the northern shores of North America, is a land of much ice and snow. In winter even the sea freezes so that our visit to Baffin Land, which must be made by ship, must be made in summer. Let us go in July.

We sail north past Labrador and then through Davis Strait, leaving on our left, Hudson Strait that leads to Hudson Bay. On our right, so far away that we cannot see it, is Greenland, a land the centre of which is covered with snow, thousands of feet thick. The bottom part of this snow is turned into ice by the weight above it and slides gradually down the valleys to the coast, where it floats on the sea and breaks off as great icebergs.

As we near the eastern shore of Baffin Land we see the cliffs in Fig. 1 rising steeply from the sea. Much of the ground is rocky and bare and there is still much snow on the sides of the hills. A small iceberg is floating in the water. When we

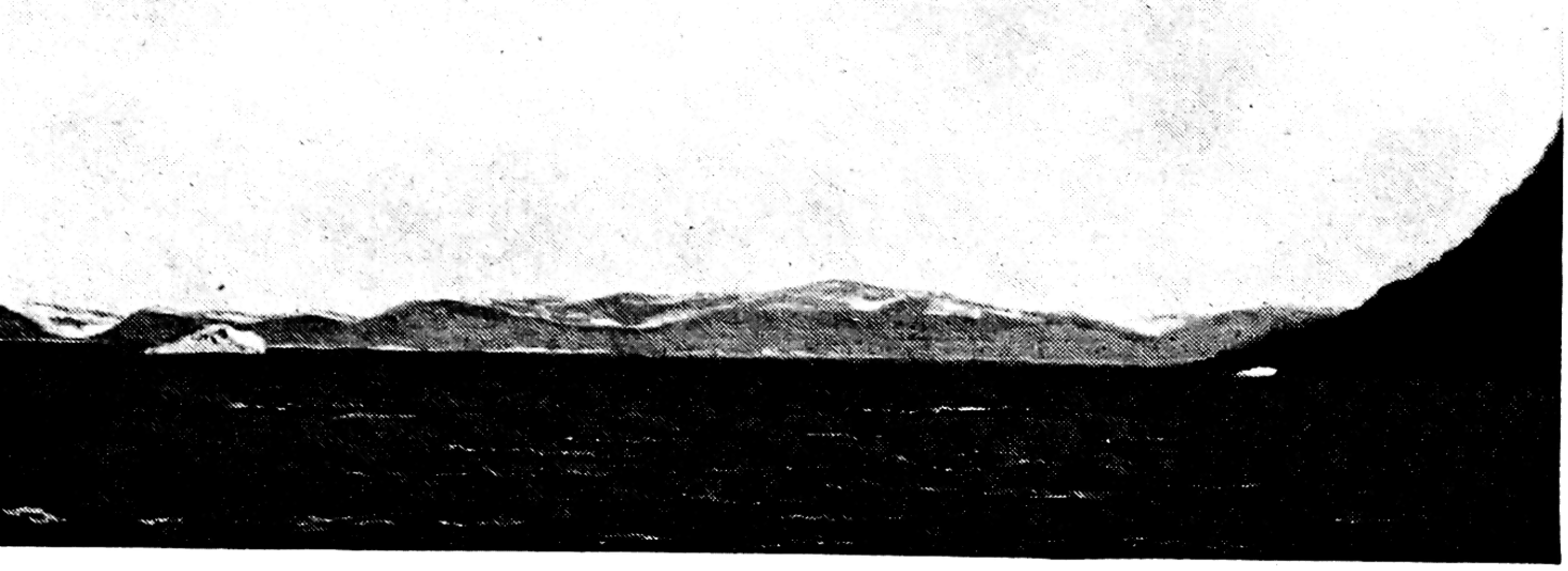

Fig. 1.—The Coast of Baffin Land

[T. Wayling

land we find, in places, patches of grass and flowers, wide stretches of moss and a few small bushes that bear berries. There is very little soil. There are no fields or gardens so that there are no cows or sheep, no fruit or vegetables.

The only house is one belonging to a trading post of the Hudson's Bay Company. But there are some skin tents, or *kudliks*, in which the Eskimo live during the summer. One of them can be seen in Fig. 2. It is made of sealskins very neatly sewn together and is held up by two short poles. As there are no trees you may wonder how these poles are obtained. The only wood found in this treeless land is that which has floated from much farther south, down rivers like the Mackenzie, and which the sea has drifted ashore. Every scrap is of the greatest value. In these days some wood may be had from the Hudson's Bay store close by. You can see, in the picture, a few bits of wood that have been obtained in this way.

At the back of the tent is a bed of moss covered with skins of

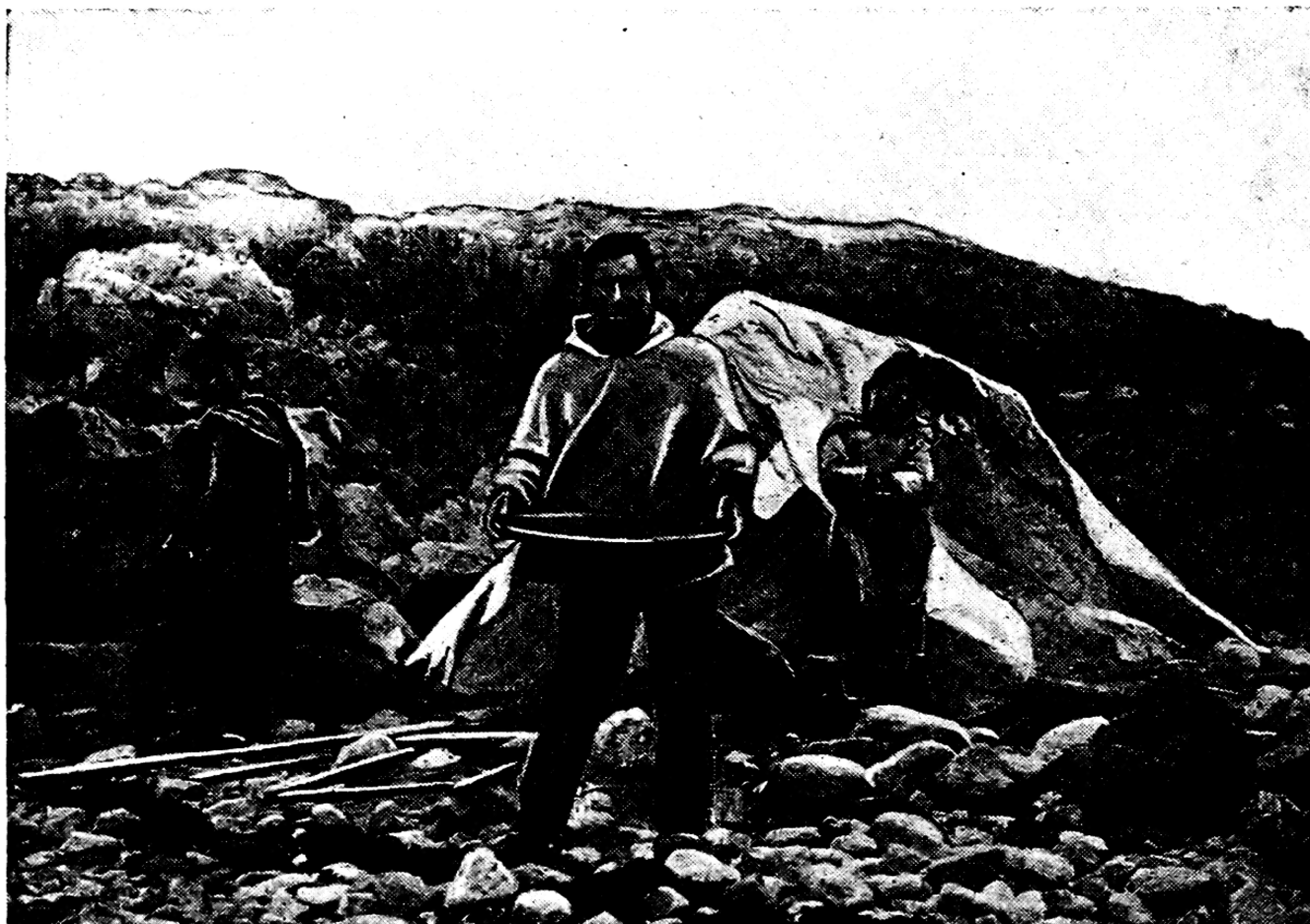

Fig. 2.—Summer Camp of Eskimo in Baffin Land

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Fig. 3.—Eskimo Woman of Baffin Land

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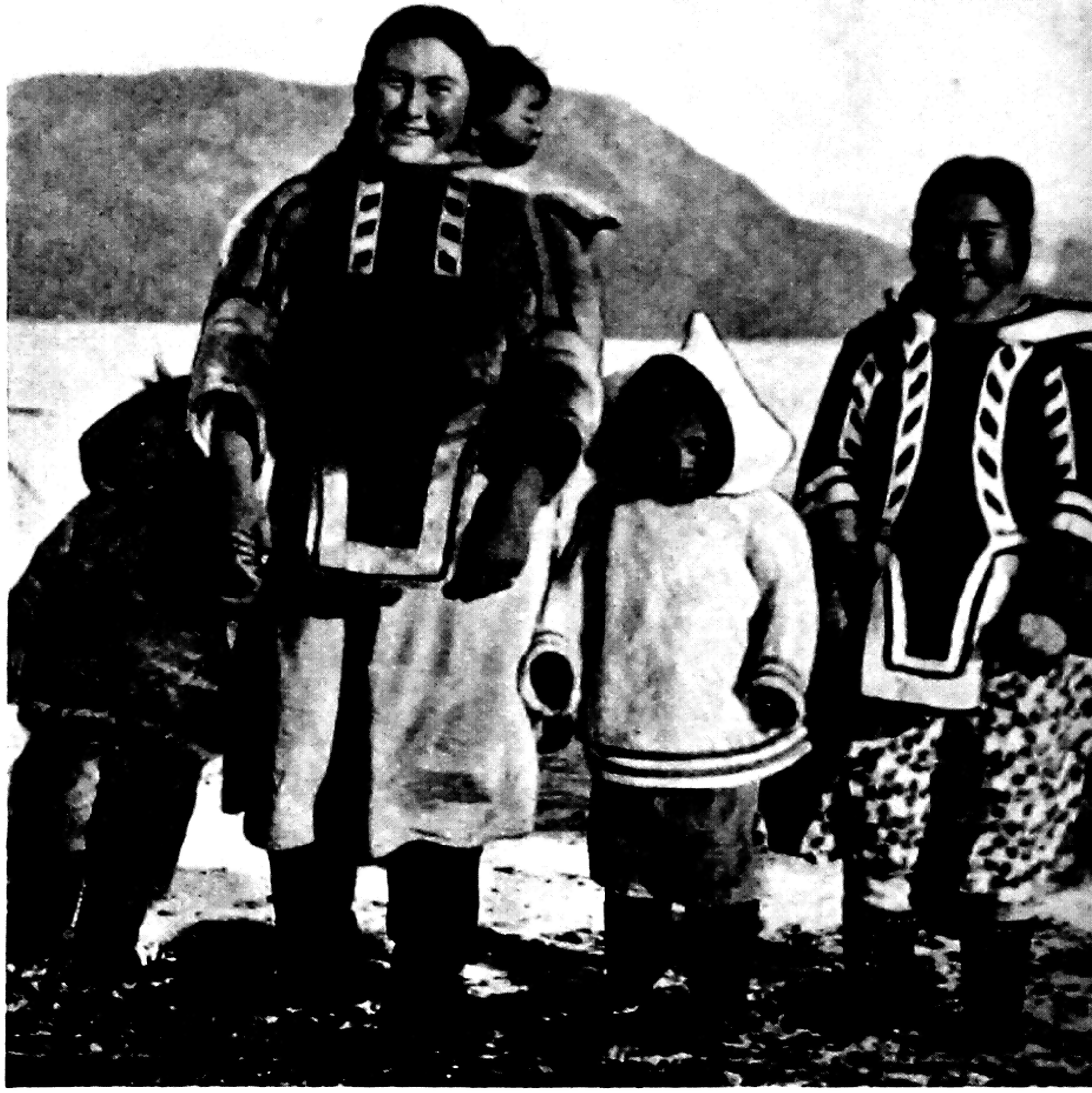
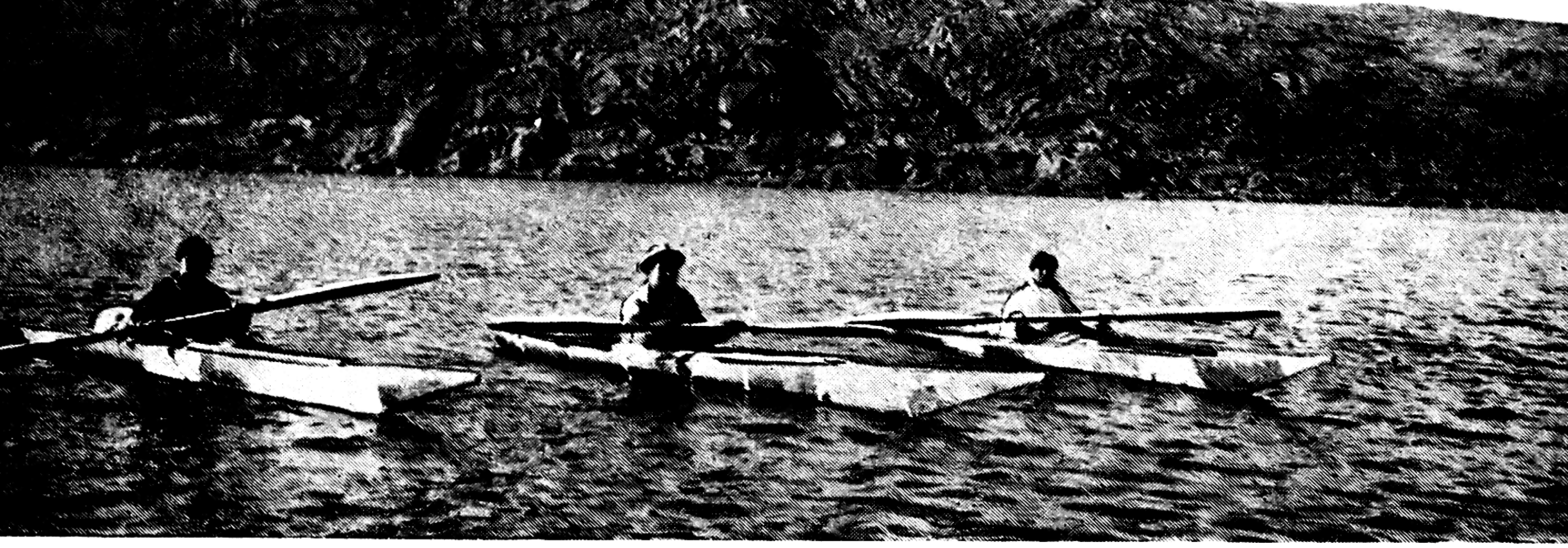


wild reindeer or caribou. The blankets are also of reindeer skin. In other parts of the tent are skin buckets, stone cooking dishes and stone lamps. The large vessel which the man in Fig. 2 is holding in his hands is one of these stone lamps. It burns seal oil and has moss for a wick. The oil for the lamp is kept in a sealskin bag hung from one of the tent poles.

Although it is summer the Eskimo have still to be warmly clad. Their clothes are made of warm skins—reindeer and seal. The women wear a kind of skin tunic, many of which, like those shown in Fig. 3, are beautifully made with different kinds of fur and skins. They also wear skin trousers just like the men. On their feet are soft skin boots without heels. On their backs they have a big hood in which the baby can be carried.

Near a Hudson's Bay post some of the women wear cotton skirts, as seen in Fig. 3, but that is mostly for show. Some of the men, like the one in Fig. 2, wear woollen trousers which they, too, have got from the store in exchange for the skins of animals which they have caught.

As the summer is a short season it is a very busy one. The



[T. Wayling

Fig. 4.—Kayaks, Baffin Land

best use must be made of it in preparing for the long winter. On the other hand the days are long ; for a few weeks the sun never sets ; it just goes round and round the sky, higher in the south and lower in the north, and there is no night at all. The chief work, of course, is hunting, in order to provide food for the winter and skins with which to trade at the store.

This hunting is partly on the land and partly on the water. Hunting on the sea is carried on in a *kayak*. This is a canoe with a frame of light driftwood covered with skins. There are three in Fig. 4. By means of the long double-handed paddles they can be made to move very quickly.

The chief weapons are wooden spears or harpoons which the Eskimo make for themselves. At one end of the harpoon is a sharp point of bone or ivory, or of iron obtained at the trading post. Some of the men have guns which they buy by exchanging skins at the store. Guns are, however, not nearly so useful as harpoons and spears and are much less used.

During the summer the Eskimo on the east of Baffin Land hunt the seal, the walrus and sometimes a whale. Of all the animals an Eskimo hunts the seal is the most useful. It gives him food for himself and his dogs, oil for his lamps and skins for clothes, huts and coverings for canoes.

When it comes to the surface to breathe, as it must, the hunter paddles as near to it as he can and throws a harpoon. If he hits the seal the sharp point of the harpoon enters its body while the handle is set free. The seal swims away to escape but, tied to the head of the harpoon by a long, strong line of seal thong is a sealskin, blown up with air, so that wherever the seal goes the sealskin goes with him. Away after it, as hard as he can paddle, follows the hunter, and as soon as the seal once more rises to the surface he strikes it with his spear and, if he is lucky, kills it. The walrus may be hunted in the same way, but hunting the walrus is a much more dangerous business because it is always ready to fight. Underneath the hide of both seal and walrus is a layer of fat, or blubber, and under that a layer of meat. Both the blubber and the meat are nicer to the taste than that of any of the other sea animals, and the walrus is so big that one walrus can supply quite a lot of food for men and dogs alike.

When a seal or a walrus is killed it is handed over to the women. They strip off the skin and the layer of blubber and cut up the flesh into lumps that are stored under rocks where they soon freeze and can be kept for use later on. The hide is carefully scraped clean. In Fig. 5 two women are seen scraping a walrus skin. Part of the blubber is eaten, but some of it is beaten to squeeze out oil to be burnt in the lamps.

The bones of the walrus are shaped into fish-hooks, spear-heads, needles and toys, and the tusks, which are of ivory, are taken to the trading station when the Eskimo next visit it, to be sold for knives, steel needles, watches, guns and many other things that our ship has carried to Baffin Land.

Another summer job is catching birds in nets and collecting eggs from their nests amongst the rocks. This is usually the work of women and children. The birds come in tens of thousands from warmer lands farther south but they do not stay long. Their eggs are either eaten fresh or stored and frozen

The caribou or reindeer is also hunted in summer. As a rule the Eskimo obtains almost all he wants from the

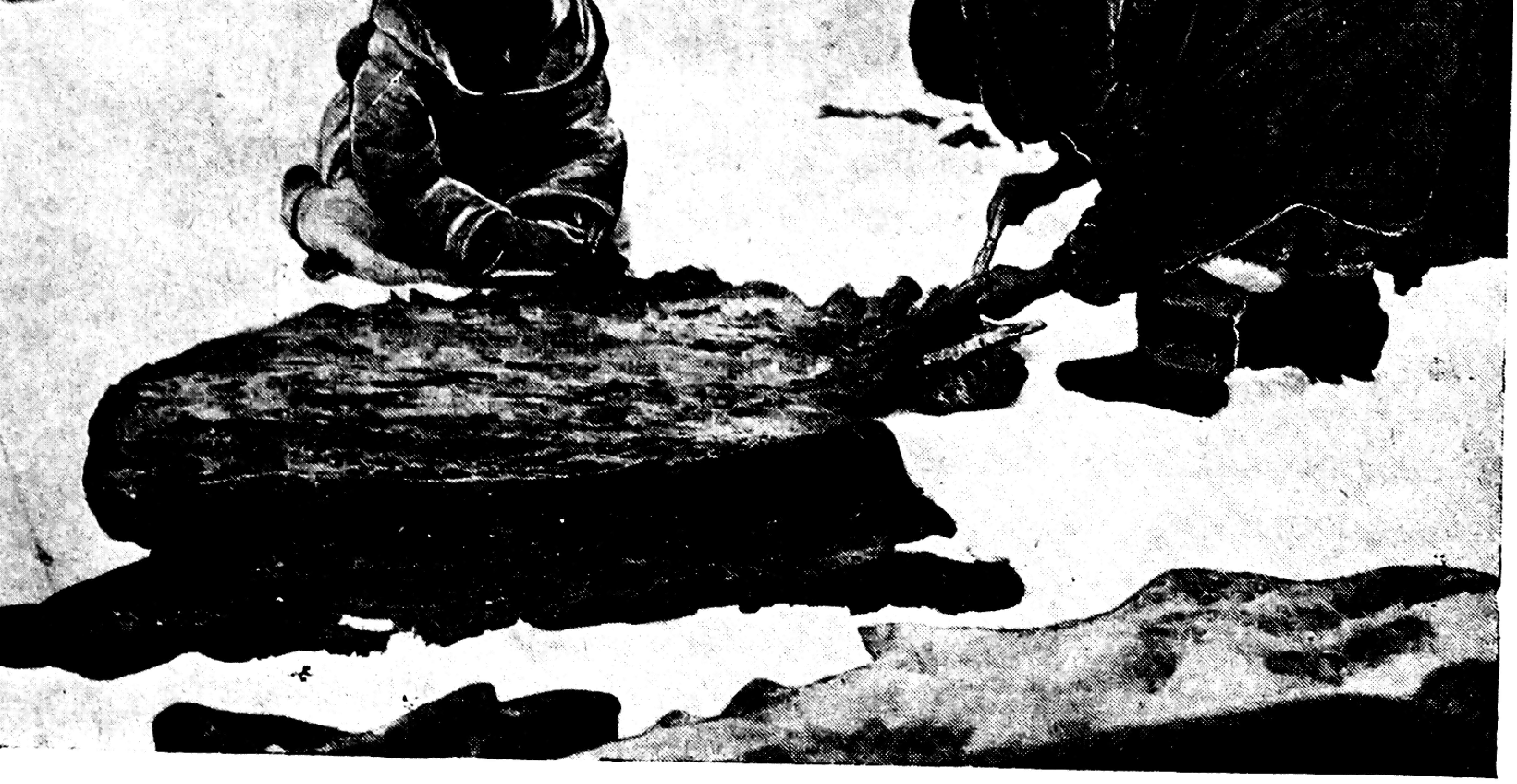


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Fig. 5.—Women Cleaning a Walrus Skin, Baffin Land

sea, but to hunt the reindeer he must go on land because this animal lives up in the hills and feeds on moss. To reach it a long trip has to be made. Usually everybody goes on this hunting trip, men, women and children. The first part of the journey may be along the coast. Then the people travel in big skin boats, called *umiaks* or women's boats, that will hold a whole family, hut, food, dogs and whatever may be needed while they are away. When the boats can go no farther the journey is finished on foot.

When the hunting ground is reached the search for the reindeer begins. Every morning the men go out to look for the deer. If they find a herd they send for the women to come to help. The women keep behind the rocks till the herd is reached. They then jump up with a loud shout, bang the rocks and frighten the deer. The deer rush forward and the waiting hunters shoot them. The deer are skinned by the women and their flesh cut into lumps of such a size that they are easy to carry. When the hunt is over everybody marches back to the boats laden with skins and meat.

By this time, say September, the birds have gone south again, the first snow has begun to fall, ice is forming in thin layers on the sea and the tribe must be back in its winter quarters ready to spend the winter in a village of snow houses.

The snow house is shaped like a bowl turned upside down. It is built of snow blocks that are cut with a large knife of whalebone or antler, and all the cracks are carefully filled with snow so that no opening is left by which the wind may enter. Usually a slab of clear fresh-water ice is used for windows. The house is entered through a low porch which is also used as a storehouse for meat, harness and weapons.

Opposite the porch is a low platform of snow, like that in the summer tent, covered with heather and skins on which the family sleep under warm deer skins and furs. On either side of it are smaller snow benches, used as shelves, on which are placed lamps, knives and cooking dishes.

Cooking, as in summer, is done over stone lamps that burn oil and have a bit of moss for a wick. The heat from these lamps is so great that the inside of the house is warm even in the coldest weather. It is, in fact, so warm that the people take off the greater part of their clothes.

In winter the sea freezes, kayaks cannot be used and food is more difficult to get. The animal that supplies the greatest amount of meat is, as in summer, the seal, but it is now under the ice. The seal, however, as we have seen, must breathe. During the winter it breathes through a hole that it makes in the ice. By the side of one of these holes the hunter sits very quietly, perhaps for hours, till a seal comes to the hole. Then, with a flash, the harpoon pierces the animal and a struggle takes place between the seal and the hunter. When the seal grows weak it is pulled on to the ice and killed with a knife.

Fishing also is carried on through holes in the ice.

All this means that the winter houses of the Eskimo must be where the water is fairly deep and the ice not too thick. If the ice were too thick the seals would not be able to keep open the breathing holes. The right kind of ice is found in the long bays or fjords on the east of Baffin Land.

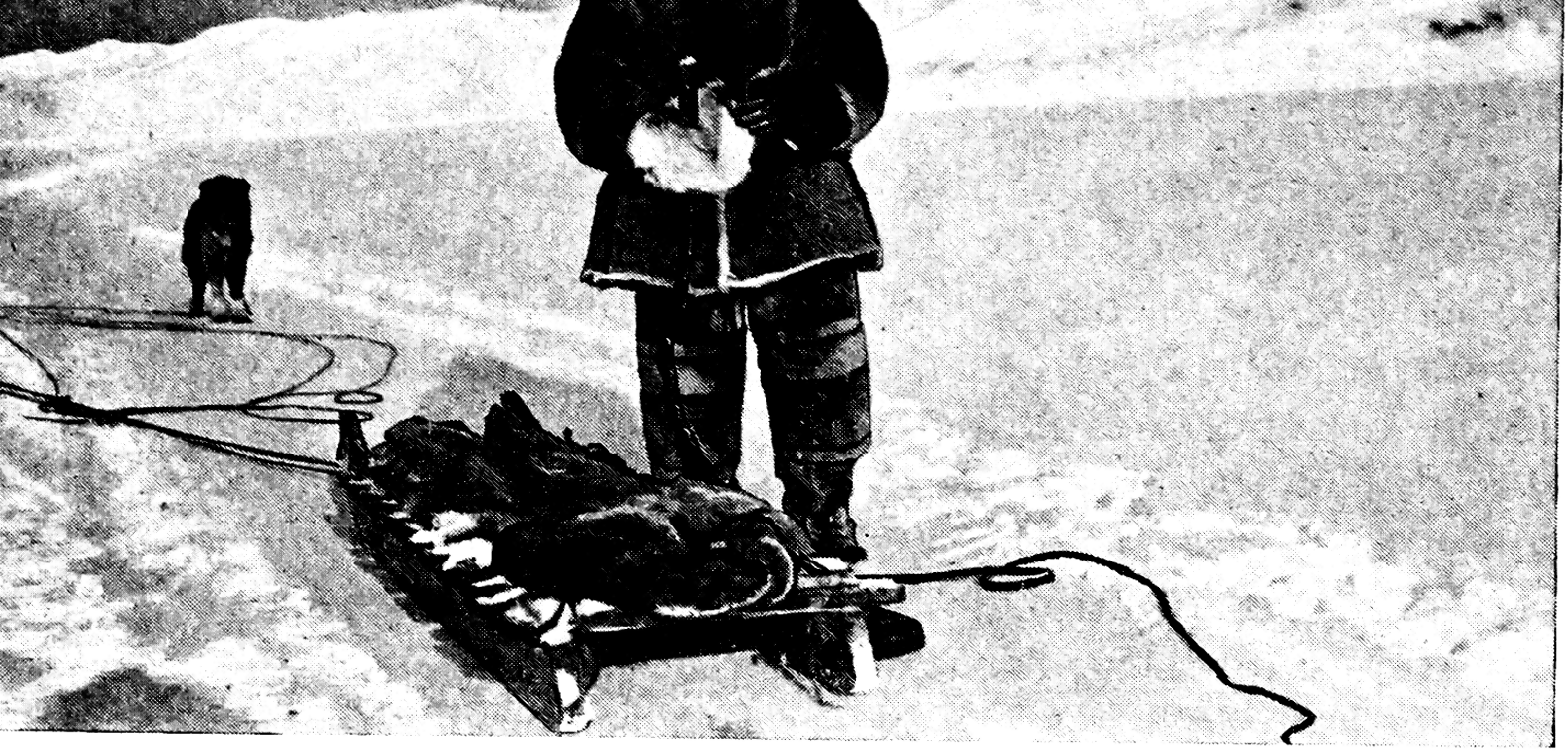

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Fig. 6.—An Eskimo with his Sledge, Baffin Land

In order that he may go quickly and easily to the different seal holes in the ice the Eskimo uses a sledge. In Fig. 6 is an Eskimo with his sledge on the ice of one of the big bays some distance from the trading post. Behind him, on the right, are some of the snow-covered mountains.

The sledge is pulled by dogs harnessed to it with thongs of sealskin. One dog and the thongs of other dogs are seen in the picture. In the hands of the man is a long whip. A clever driver rarely uses the whip but, when he does, he can touch any particular part of any particular dog as he pleases. The sledges are used also in winter when the hunter has to move to new sealing grounds.

In winter white foxes are trapped. These foxes supply the most valuable skins with which to trade at the posts but, except for that purpose, they are of no use to the Eskimo. Hunting these animals may, indeed, make him poor. He cannot hunt the fox and the seal at the same time. If he does not catch seals he cannot have the things he really needs—meat and blubber and skins for clothing. Sometimes, too, there are very few foxes in Baffin Land and then the Eskimo, who has spent all his time hunting them, is very badly off.

When the Eskimo, in winter, is doing something out of doors that does not keep him warm, he wears " two of everything "—two suits, two pairs of gloves and two pairs of boots at the same time, one with the fur next the body, the other with the fur next the air. If, however, he is walking quickly, he does not usually wear this double suit, even in the coldest weather.

The winter season may not seem a very pleasant one to you. It may be so cold that your nose would freeze if you went outside the hut and, for almost two months, in northern Baffin Land, the sun does not rise. A faint glow can be seen in the south at mid-day but, for the rest of the time, it is rather dark.

Yet the Eskimo probably likes the winter season better than the summer. At this time he visits his friends and makes journeys that take several weeks. He travels with his dog sledge, builds a little snow hut each night in which to sleep and thoroughly enjoys himself.

Even if he stays at home there is plenty to do. Seals must be caught for food; spears, harpoons and dog-harness must be mended; his gun, if he has one, must be oiled and cleaned; meals have to be cooked; old clothes have to be mended and new ones made.

These Eskimo in Baffin Land live differently in many ways from any of the people of whom we learned in Book I. Their houses are different, their clothes are different, their ways of travelling are different and their food is different: they have no bread, and no butter, no milk, no cheese, no vegetables—nothing but meat.

Other Eskimo, who live all along the shores of North America, from Greenland to Alaska, do not live exactly like those of Baffin Land. They may dress differently: in Greenland the women do not wear skirts and the boots of both men and women are much longer: in Alaska and in Greenland the man's coat is much shorter. Sledges, too, are not the same in all parts of the coast: some, used in the west, are longer and narrower: in Greenland they have a kind of rail at the back.

Houses differ. Some Eskimo have learned to build stone houses without mortar but with the chinks filled in with moss. In Greenland and in Labrador they may live in small villages of wooden houses, the timber for which has been obtained from traders, and may even have a school.

But, wherever they live, their dwellings are near the sea from which comes almost everything they need and they all lead very busy lives. Their homeland on the Arctic islands and shores of North America gives them little and gives them nothing without hard work.

If we think of the Amazon Indians, about whom we read in Book I, it is clear that the Eskimo are very clever to live at all, and that they make better use of the sea, and of their cold and barren shores, than the Indians make of their warm and heavily wooded forest land.

WORK TO BE DONE

1. Name things for which sealskin in used by the Eskimo.

2. What do the Eskimo eat? 3. What do the Eskimo drink?

4. Name two uses of wood to the Eskimo. From where does it come?

5. Name one thing that grows on the land. Of what use is it?

6. How is it that the Eskimo does not live in a snow house in summer?

7. Write two sentences about the temperature in summer.

8. Write a sentence about the temperature in winter.

9. In what directions do the Eskimo of Baffin Land see the sun at midsummer?

10. What is the length of the daylight in December in North Baffin Land?

11. " Much of the ground is rocky and bare." What pictures show this?

12. What things in Fig. 2 tell us that these Eskimo live close to a Hudson's Bay Company's store?

13. Describe kayaks and sledges.

14. Write three sentences about the Eskimo and their land that you could learn from Fig. 6.

CHAPTER II

THE FISHERMEN OF NEWFOUNDLAND

On a map of North America find the following as you come to them in this chapter: Baffin Land, Davis Strait, Labrador, Newfoundland, the Gulf of St. Lawrence, St. John's, the Grand Banks, Nova Scotia, New Brunswick, Greenland.

WE shall now visit another part of North America where most of the people live by what they can get from the sea. We must, however, leave Baffin Land before the winter sets in, for then all the sea is frozen and no boats can sail on it.

We pass south through Davis Strait, pass the barren shores of Labrador till we come to the large island of Newfoundland at the entrance to the Gulf of St. Lawrence. We sail on past the coast of that island to the very south-east to St. John's, the capital and chief port. It is sometimes called the " fish city " because so many of the people who dwell there either catch fish, cure fish, sell fish or make cod-liver oil. The chief fish caught is cod. When a Newfoundland fisherman speaks of " fish," he means cod. All other fish he calls by their proper names.

We enter the harbour through a very narrow passage only about 200 yards across, with tall dark-red cliffs rising on either side of us. This channel opens out into a natural harbour surrounded by low hills and well protected from the storms of the ocean. The shores are lined by wharves and warehouses belonging to the merchants who buy the fish. The larger buildings and some of the newer houses are of stone, but most of the houses are of wood. There is plenty of both wood and stone in Newfoundland.

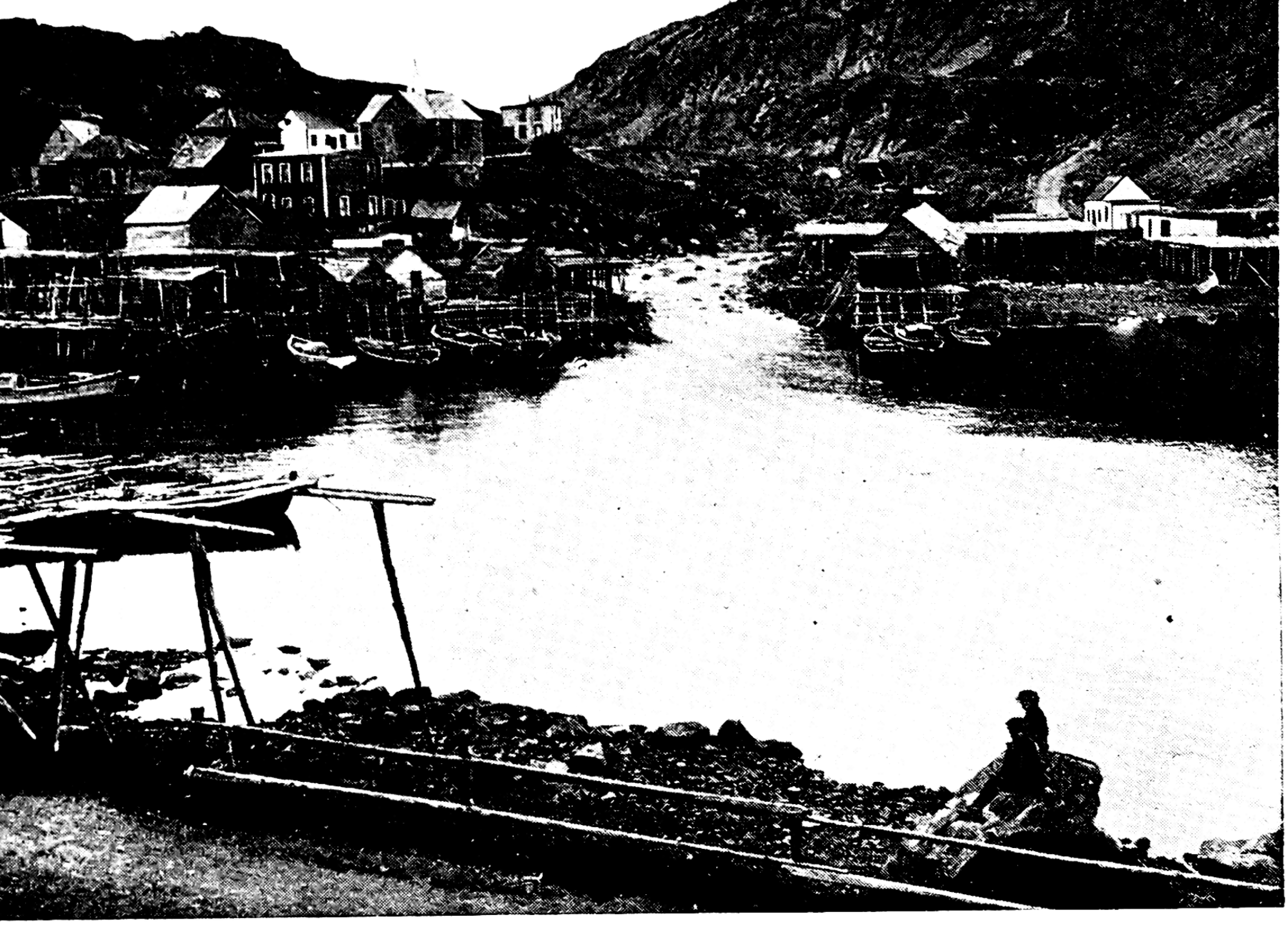

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Fig. 7.—Quidi Vidi, looking Inland

We do not, however, stay long in St. John's. We are going to a small fishing village, or " outport " named Quidi Vidi. It is at the head of a little inlet quite close to St. John's. There are 1600 of these little outports in Newfoundland and they are all very much alike in many ways.

Almost the first thing we notice is the scent of tar and salty seaweed in the air. Next we see (as in Fig. 7) that all the houses are fairly close together. They are built of wood, and are small. Most of them are gaily painted—yellow, blue, pink or green. They have no shutters so that no sunlight is ever shut out. During the winter extra windows are put in, in front of those in use all the year round. This helps to keep out the cold.

There is a wooden church almost in the centre of the picture, but the post office, as in many an English village, is simply a

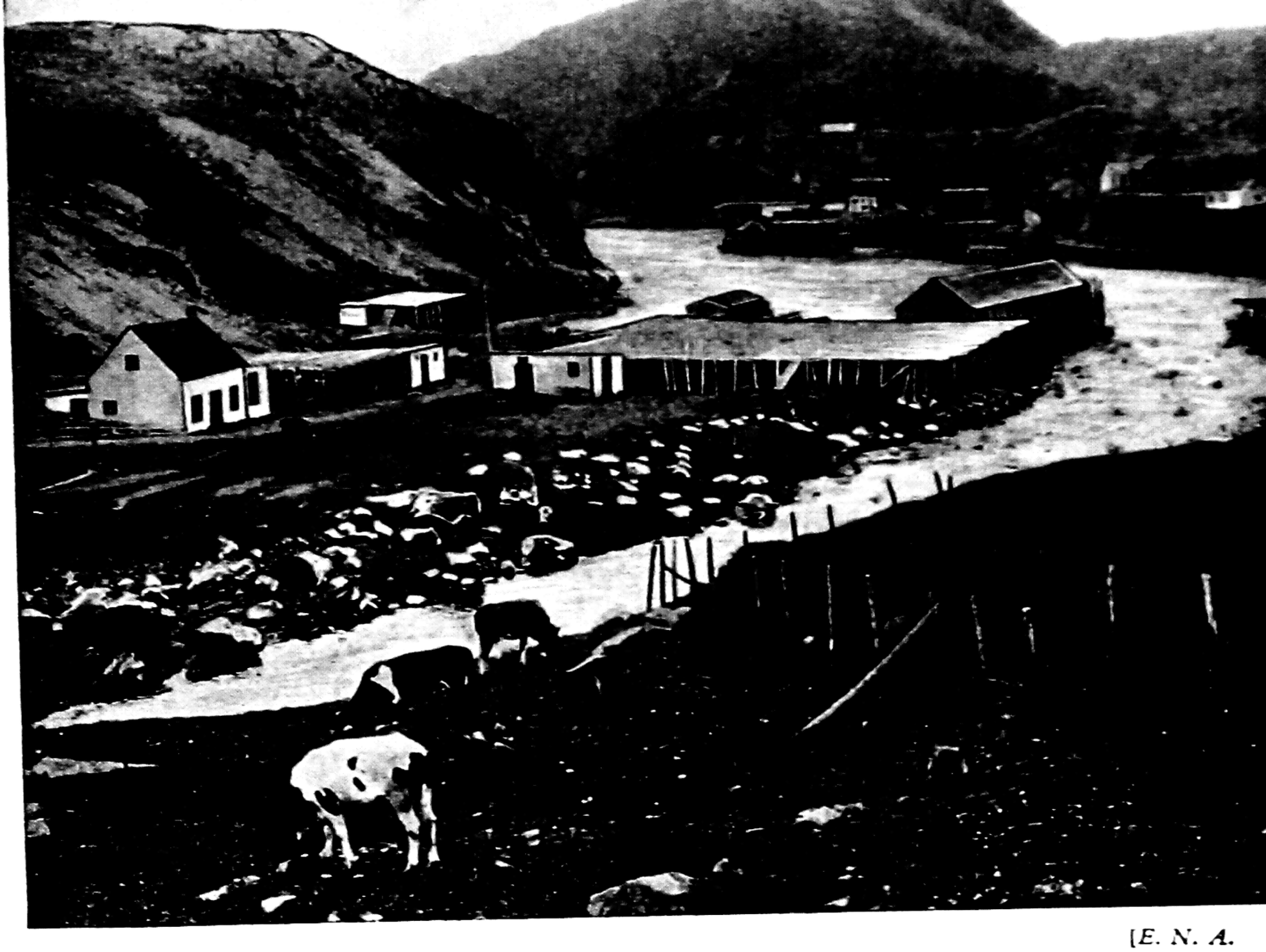

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Fig. 8.—Quidi Vidi, looking towards the Sea

room in a cottage. There is a store that sells simple things that the people are likely to need—groceries, stationery, hardware and medicines. There are no doctors and no dentists.

The country round is bare and rocky. A little stream comes tumbling down a small valley to the inlet. Grass grows in patches between the rocks. Some of it is fenced off, as you can see in Fig. 7, to form tiny fields. Some cows are feeding by the stream in the distance. Field, fence and cows, however, are better seen in Fig. 8. This is a picture of the same place but is taken looking in the opposite direction.

The only roads seen in either picture are crooked lanes and steep trails that lead over the hills to neighbouring inlets, where there are a few more cottages and more sea swarming with screeching sea birds.

Some of the houses have small gardens in which vegetables are grown, for the summers are as warm as they are in England and there is plenty of rain. In summer, too, there are wild raspberries and strawberries in sheltered parts of the nearby hills. Besides the cows seen in the picture, the people keep goats, poultry and a few sheep. Fences round the gardens keep out the live stock and prevent them eating the vegetables. The fence is also the place where mother puts out the washing and the fishermen dry their nets.

In December a hard winter sets in that lasts for four or five months and prevents fishing. The inlet freezes over and dry, clean snow thickly covers the ground. Thick woollen clothes are now worn with caps that button over the ears. At this time, some of the fishermen mend their boats and fishing tackle to be ready for the next fishing season, but many of them become wood-cutters. They go away a good distance, to the centre of Newfoundland, to fell trees in the forest.

Most of the wood is used by one or two huge factories that

Fig. 9.—Fishing Boats, Quidi Vidi in May
These boats have just returned from line fishing

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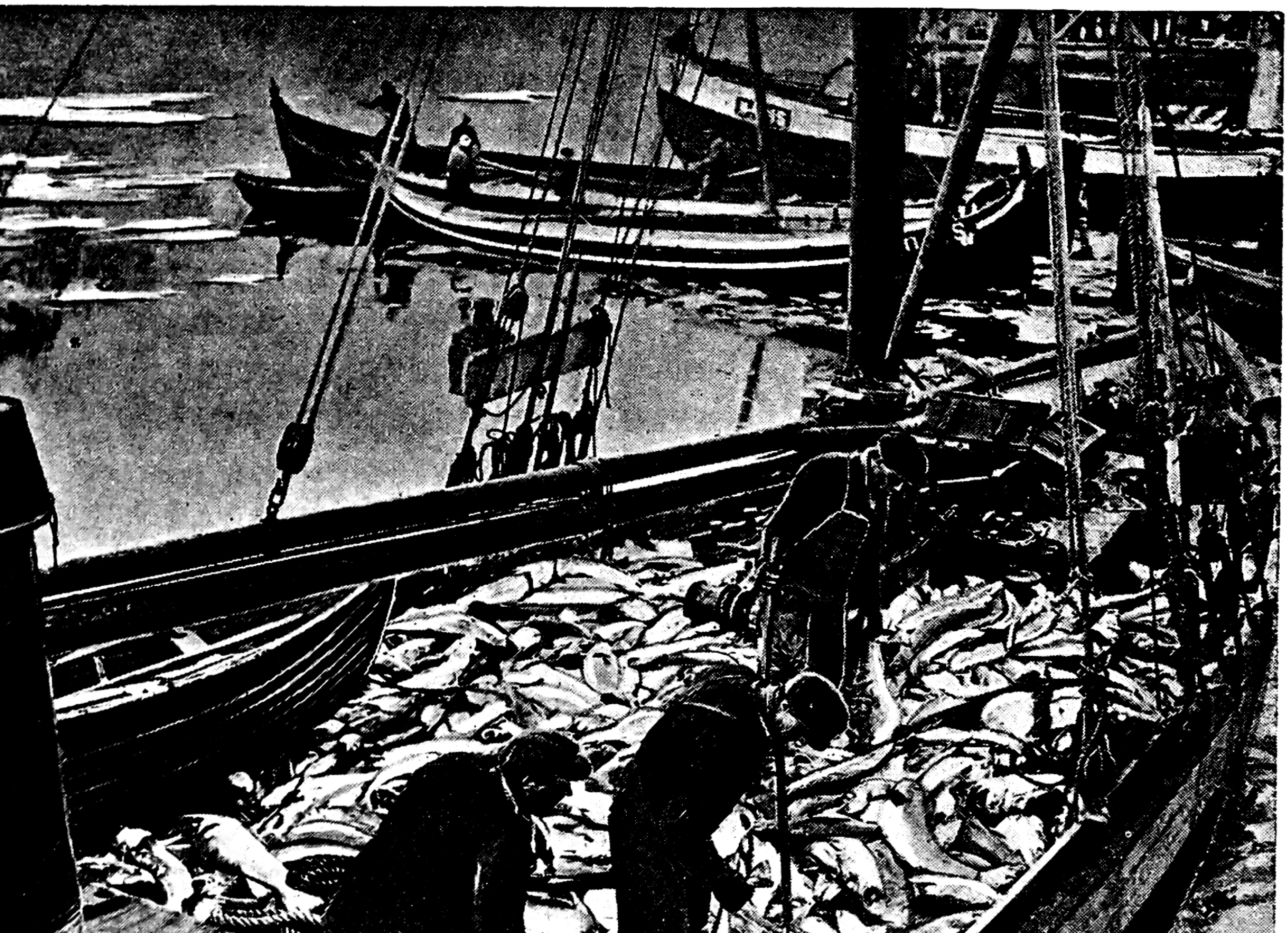

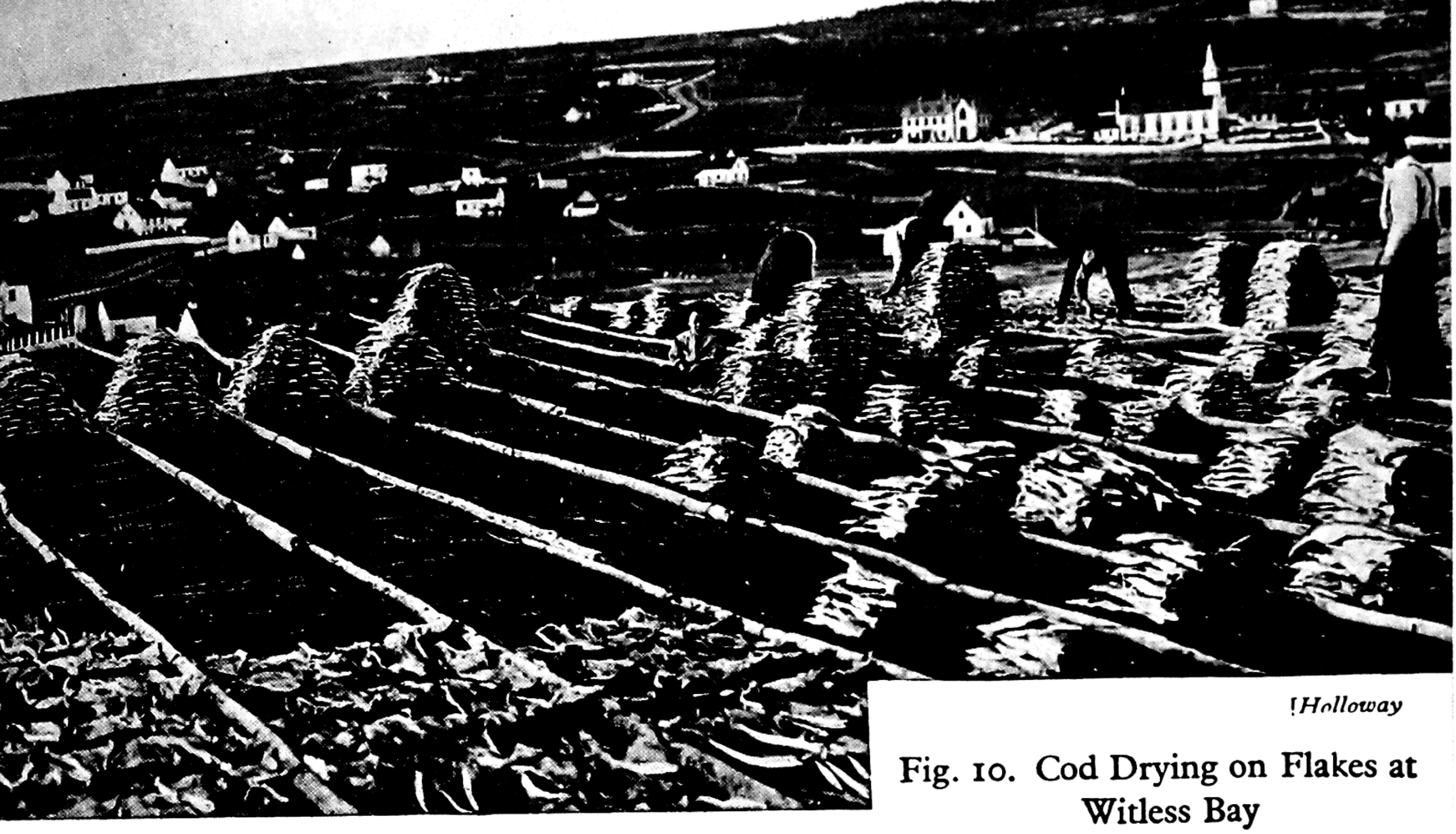

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Fig. 10. Cod Drying on Flakes at Witless Bay

turn it into pulp for paper. Some of the wood, however, is wanted for building houses and boats. Some is used also for barrels and casks to hold fish and salt, furniture for the house, and fuel, especially in winter.

The men in the village are good at anything. A man is not only a fisherman : he is a farmer, a lumberman, a miner or anything at which he can earn a living. The women, too, are just as clever and make warm clothing from sheep's wool which they spin and weave for themselves.

Towards the end of winter, in March or April, some of the men go to hunt seals farther north off the coast of Labrador.

Then spring comes quickly and in May the real work of the year, cod-fishing, begins. Most of the cod-fish are caught near the shore with hooks, lines and traps. In Fig. 9 is a boat which has just returned home with cod-fish. There is still some ice floating on the water round the boats.

Sharp knives and quick fingers soon remove the heads, tails, fins and backbone. The livers, used in the making of cod-liver oil, are thrown into baskets. The dressed fish are washed in tubs of salt water, packed in salt and left on the floors of the fish houses seen along the shores in Figs. 7 and 8. After the cod have been in the salt for some weeks they are washed and spread out to dry.

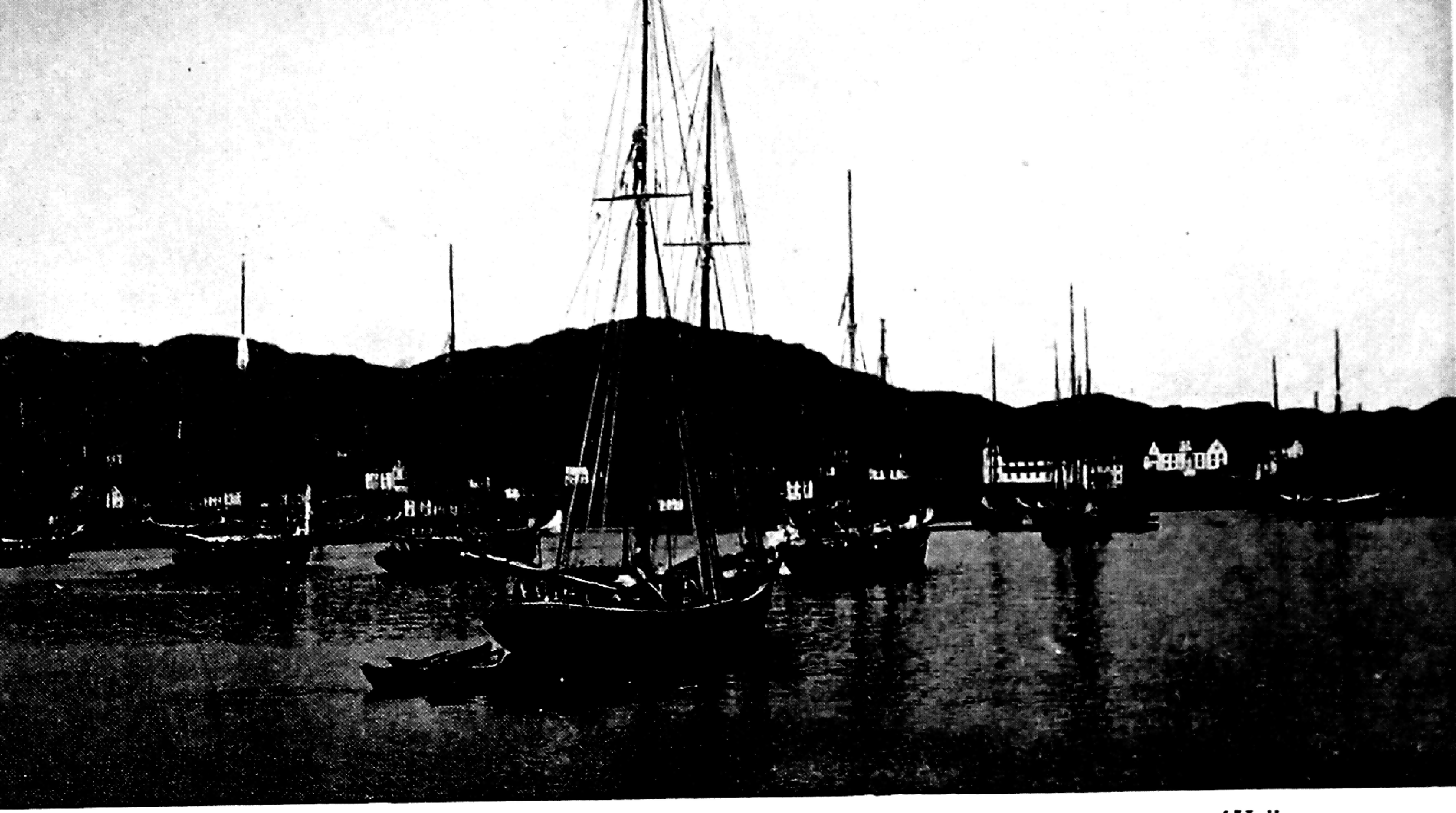
Right in the middle of Fig. 8 is a big flat platform. You can see it again in Fig. 7. There are also many others in each of these pictures. In Fig. 10, which shows another village where the ground is less rocky and there are more gardens near the houses, the platform stretches right across the front of the picture.

It is on these platforms, called *flakes*, made of layers of spruce and pine and supported on poles, that the fish are dried. In Fig. 10 some of the dried cod are being gathered into piles. The drying takes but a few days if the weather be warm and clear, but it may take weeks if the weather be damp, cold and dull. When the cod is quite dry and well salted it will keep for a long time. It is sent to St. John's where the merchants export it to other countries.

The most interesting and the most dangerous fishing is the deep-sea fishing over the Grand Banks, the shallow water south of Newfoundland. For this, large two-masted vessels or schooners are used. They are built of wood and are from 100 to 150 feet in length. They all carry sails but many of them, in these days, also have motor engines. In Fig. 11 are some of these " bankers " as they are called : they are lying at anchor at another little fishing village built, with its houses, church and school, upon the rocky coast.

Before they set out, with their crews of from twelve to twenty men, they are loaded up with barrels of salt, flour and molasses, with coal, water and oil, stacks of meat, supplies of clothes and all the things that will be needed, for catching fish and working the ship, during the months they will be away. People come down in crowds to see their friends and relations depart and to wish them good-bye, for they will not return for a long time and some of them may never come home again.

When the fishermen arrive on the banks they find there other



[Holloway

Fig. 11.—Fishing Schooners at Burin, Newfoundland

fishermen from other countries, particularly from Nova Scotia, New Brunswick and the north-east of the United States. These countries are all farther south than Newfoundland and are much warmer. In other ways, however, they are very similar ; they have rocky coasts, long winters and inland forests and many of their inhabitants are fishermen.

When the schooner has let down its anchor the men put out in small rowing boats called *dories*, like those in Fig. 11 at the stern of the nearest schooner. These boats are flat at the bottom and, when not in use, are stowed on deck, one inside the other, like a pile of saucers. In the front of each boat is a tub containing a line, nearly half a mile long. Fastened to it, each about 6 feet from the next, are short lines about 2 feet long each with a baited hook.

One end of the line is fastened to a light iron anchor and thrown overboard, after which the fisherman, standing up in the stern of the dory, heaves the rest of it into the sea. Another anchor is fastened to this end so that the long line lies on the

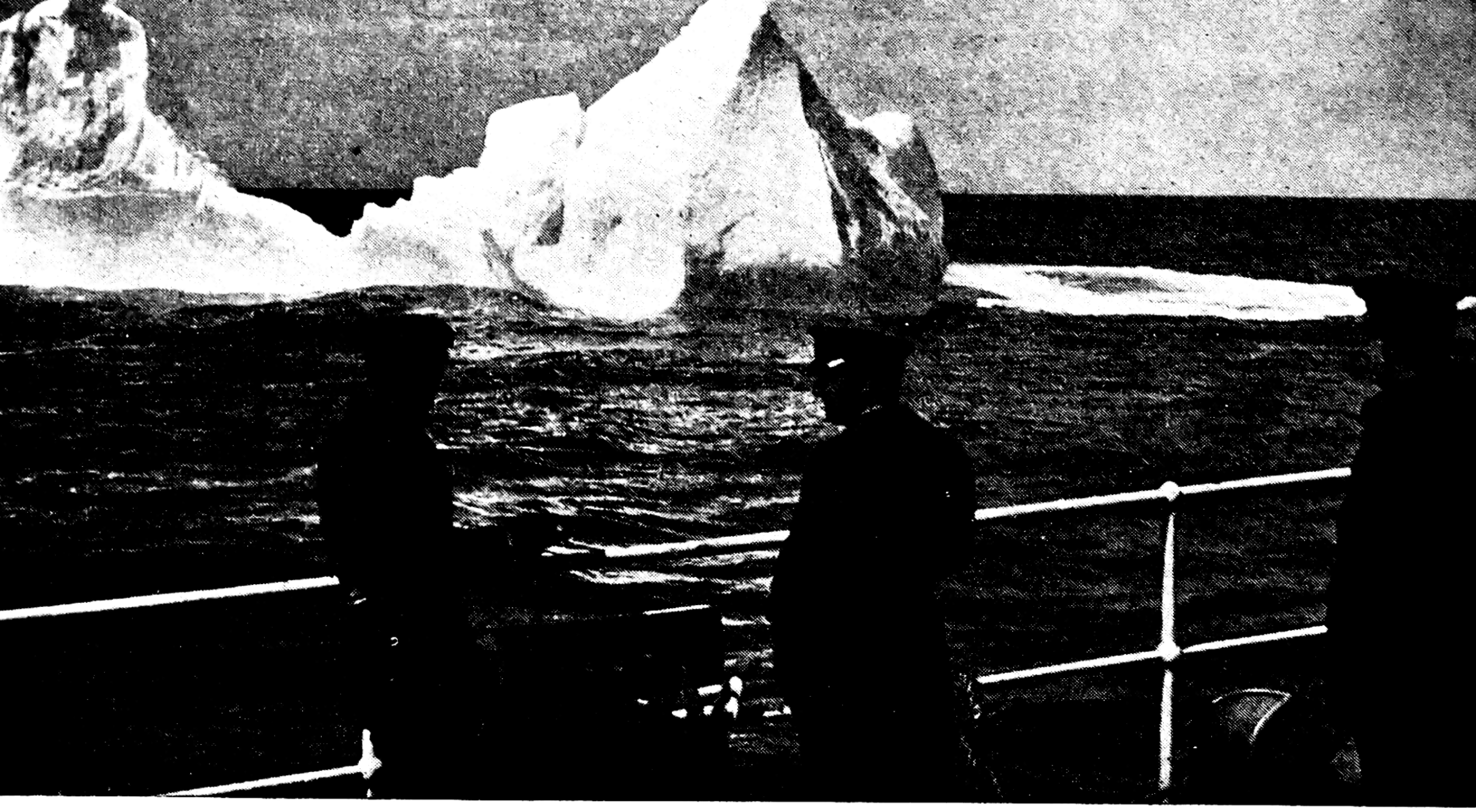


FIG. 12.—Iceberg seen from the deck of a ship [*Mon*

bed of the sea. The anchors prevent it being moved by currents at the bottom and its position is marked by floats that carry little flags or black discs called " black balls."

After a time the men begin to collect the fish that have taken the bait. All through the day they row backwards and forwards alongside the line. They pull a bit of it up, pass it over the boat, take off the fish and put fresh bait on the hook. The work, which is something like pinning and unpinning washing on a line, is both slow and dangerous.

The worst enemy is fog. The dories belonging to a schooner may leave it in fine, clear weather, scatter over the water, and a little later be hidden from sight in a thick wet mist. Then a bell is sounded on board, guns are fired and torches lit, but every year some dories are lost.

In a fog, too, they may be hit and sunk by steamers, for the banks are right on the way between Europe and America. Another danger, especially during fog, is from icebergs. Greenland, away to the north, is covered with snow all the year round, for it is higher than Baffin Land. Snow which lies on the surface and is not much pressed together becomes solid enough to allow the Eskimo of Baffin Land to build igloos. On the highland of Greenland, however, the snow is so thick that the deeper parts are pressed together to form very solid ice which gradually slides into the valleys and down to the sea. There it breaks off in enormous masses called icebergs. These float south past the Banks of Newfoundland and if any schooner hits one in a fog it is sure to be wrecked.

When the lines have been hauled in and the anchors pulled up the dories return to the schooner. The deck is divided up, with boards and other things, into a number of pens into which the fish are thrown by means of a fork with a short handle. These pens are used in order to prevent the fish sliding from one side to the other of the boat when it rolls.

At the end of the day, when all the men and the dories are on board, the cod are dressed down and packed in salt, just like those on shore, to preserve them. When the schooners return home, at the end of August or the beginning of September, the fish are dried in the way we have already described.

The work is hard and dangerous and long hours are kept. Usually the men do not undress when they go to bed: they simply take off their jackets and boots. Men could not work like this unless they were well fed. They are always hungry. They expect three big meals a day of cod's tongues, pork, fried potatoes, hot bread and strong black coffee. In between these they will have bread, slices of cold meat and mugs of tea and coffee. The cook is a very important person on board.

Most of the men in Newfoundland are fishermen like those who live in the village of Quidi Vidi or in the other villages seen in the pictures. Some of them, in the winter, go to the forests in the centre of the island and some of them, like those who live in the village in Fig. 10, do more farming than those at Quidi Vidi. But most of them, as we have said, get their real living by fishing and so live near to the coast.

Because most of the boys will be fishermen when they grow up they have to begin, while they are still young, to learn all that is to be known about fishing. During the winter they learn how to build and mend boats, how to make and mend traps, sails and lines. When the fishing season begins they learn to handle sails, run the motor engine, steer, and manage boats in all kinds of weather. On the fishing grounds they learn how to use different kinds of fishing tackle, how and when to set traps, to watch the tides and the winds and to battle with storms.

By the side of other boys and girls, and in company of men and women, they learn to cure fish, how to split and clean them, how to take out the liver, how much salt to give to the different kinds of fish and how long to let the fish dry on the flakes.

The life of the Newfoundland fisherman is a very hard one, but he is a brave, industrious fellow and he does the best with what he has. He is kind to everybody, not only to his own people, but to strangers as well. He is so good-hearted that he will share his last meal with anyone else who is hungry even if, after that, he has to go hungry himself.

WORK TO BE DONE

1. Copy out sentences from this chapter that tell you about the climate of Newfoundland (*a*) in summer, (*b*) in winter.
2. Are there any trees at Quidi Vidi ? Are there any trees in the pictures ? Where are there most trees in Newfoundland ?
3. What things grow in Newfoundland ?
4. Of what are the houses built in Newfoundland ?
5. What kind of clothes do the people wear in winter ?
6. How does the shallowness of the Grand Banks help the fishermen ?
7. What is : a flake, a dory, a banker ?
8. Find four things that can be seen in both Figs. 7 and 8.
9. " The country round is bare and rocky." Which pictures show that this is so ?

CHAPTER III

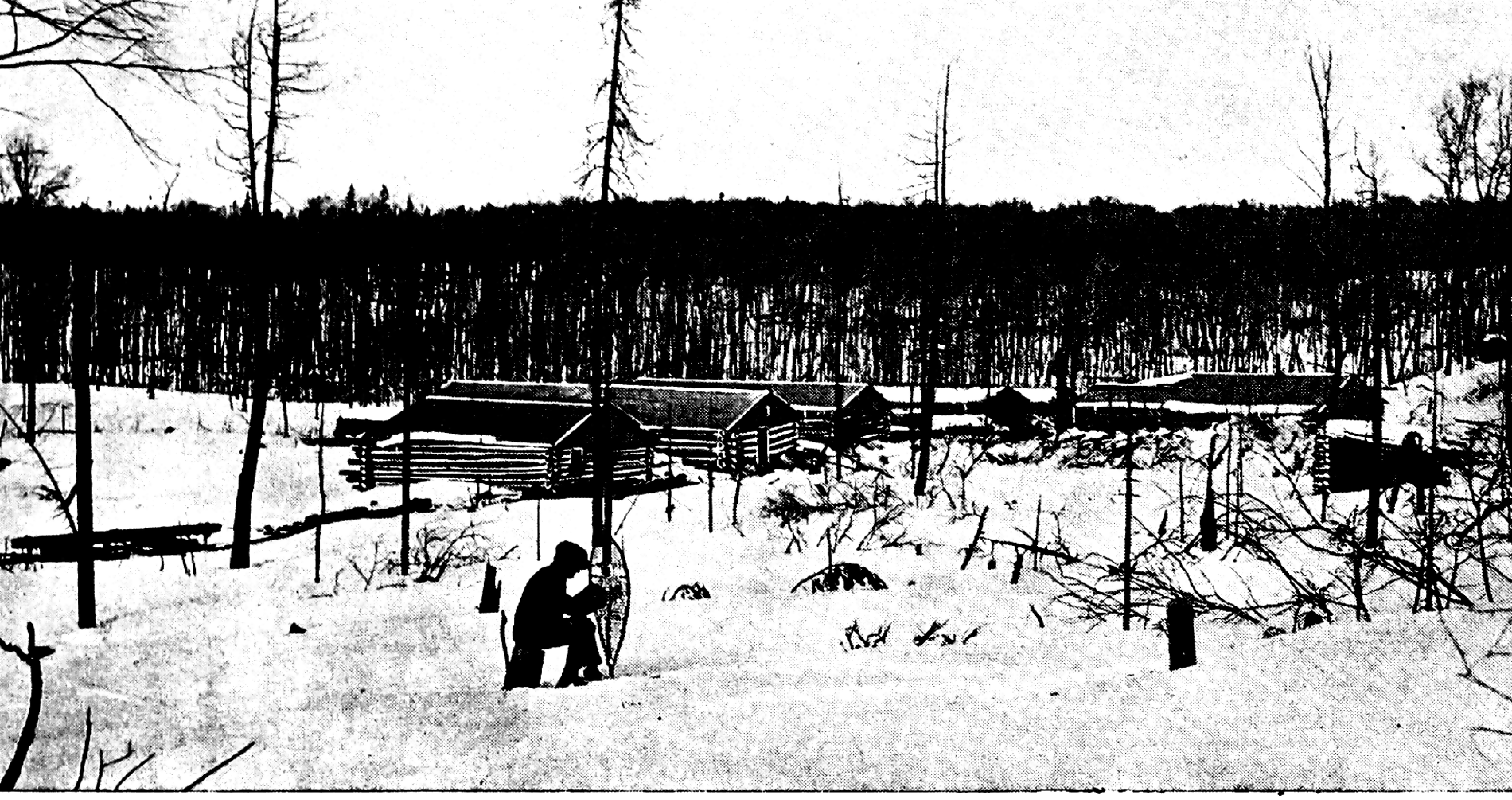
LUMBERING

On a map of eastern Canada find the following as you come to them in this chapter: Gulf of St. Lawrence, river St. Lawrence, Quebec, Montreal, river Ottawa, Ottawa, Nova Scotia, New Brunswick, the provinces of Quebec and Ontario. On a map of Canada find British Columbia when you come to it.

IMAGINE that we leave St. John's by steamer, cross the Gulf of St. Lawrence and sail up the river St. Lawrence past Quebec, as far as Montreal. Here we change into a smaller river boat and go up the river Ottawa. Some miles beyond Ottawa, the capital of the Dominion of Canada, we reach a forest This forest is really part of a very large one that stretches all across Canada, from Nova Scotia and New Brunswick to British Columbia; the one in Newfoundland is also a small part of it.

To go into this forest to see the trees cut down we shall have to wait for the winter, as that is the season when trees are felled in eastern Canada. In summer the weather is quite warm, there is a fair amount of rain and the ground is soft and swampy. This, together with big stones and fallen trees, would make it difficult to drag the logs. During the summer, however, a number of men go into the forest to choose and mark what trees are to be cut down and to prepare the camp for the men who come later.

We have seen that many of the men in Newfoundland are fishermen who work in the forests only in the winter. The people of Canada are mostly farmers but some of them, like the fishermen of Newfoundland, also work in the forests when



[Canadian Government Motion Picture Bureau

Fig. 13.—Lumber Camp, Temiskaming

the cold weather puts a stop to farming. In the autumn, when the harvests have been gathered from the farms along the St. Lawrence, many of the farmers' sons and the farm labourers go off to the woods. With them go other men who spend all their lives in the lumber trade.

The journey is made as far as possible by rail, after which big sledges or motor lorries are used. Many of the young farmers bring their horses with them and earn money by dragging timber after it has been cut down, but the motor is now taking the place of the horse. We are going with a party to a camp in the Temiskaming district, about 200 miles north-west of the city of Ottawa, to see how the men live and what they do.

Let us first look at the camp. It is seen in Fig. 13. Nearly all the trees close to it have been cut down. There is a great deal of snow on the ground as there always is in winter. The man in the middle of the picture is mending one of his snow shoes. These shoes, when fastened underneath his boots, prevent his sinking into the soft snow.

Behind him are the bunk houses in which the men sleep. Farther along are the barns, offices, stables, cook house, store house and a place where the motors can be mended. All the buildings are of wood and, as you see, are long and low. In each bunk house there is a double row of bunks built round the walls, one above the other, like the berths in a steamship. In the cook house there is a huge stove where the cook makes ready the big meals that the men need. Like the fishermen of Newfoundland the men who cut down trees are very hungry people: the hard work, the cold air and the smell of the pines give them splendid appetites.

The day's work begins very early because the days are so short. Before the sun has risen, the cook wakes everybody up by banging on a steel triangle with an iron bar. By the time the men have put on their thick warm coats and trousers and their high boots, and have set the blood flowing by washing in stinging ice-cold water, breakfast is ready. This is a big meal of mush (a kind of porridge), bacon and eggs, hot buttered toast, maple syrup, pancakes, fruit and tea with plenty of sugar in it. After breakfast the men may skylark for a while but they soon set off for their work in the forest.

In this forest there are only about eight different kinds of trees: nearly all of them have needle-shaped leaves and bear cones. A few, like those in Fig. 13, are larch: these drop their needles in the autumn. Most of the trees, however, are firs and spruces like those seen in Fig. 15 and, in the distance, in Fig. 13. These keep green all the year round. The branches are short and the trees are shaped like cones, broad at the bottom and pointed at the top, so that they can stand against the strong winds that would wreck trees with bigger branches and rounder forms.

Much snow lies on the branches in the winter and helps to keep the tree warm. At the same time, the shape of the tree helps it to shed some of the snow when the load becomes too heavy and threatens to break the branches.

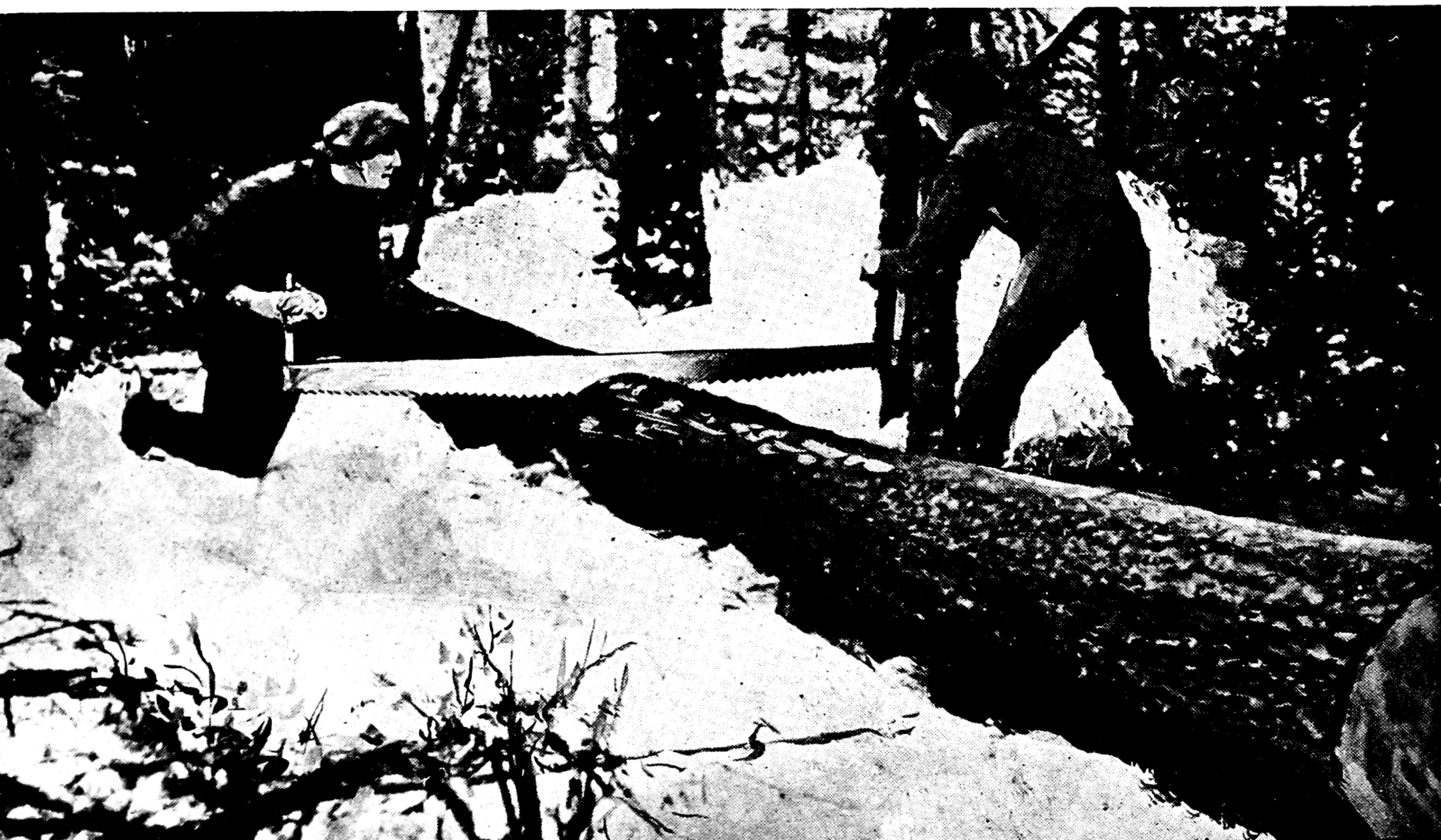
When working in the forest the men split up into gangs, each of which has its own " boss " and its own kind of work. The best men fell the trees and cut them into logs. They are so quick and clever that, in a few minutes, they can cut through a tree trunk that may be as much as 2 feet thick. The sharp axes bite into the wood making cuts that look like the letter V laid on its side—so >. When the tree is beginning to sway and is almost ready to fall, two men, using a saw with a handle at each end, cut into the stem from the other side and the tree crashes to the ground within an inch of the spot where the loggers want it to fall. In this way hundreds of trees are felled in a day. If you look carefully at the right-hand end of the fallen tree in Fig. 14, you can see which part has been cut with the axe and which with the saw.

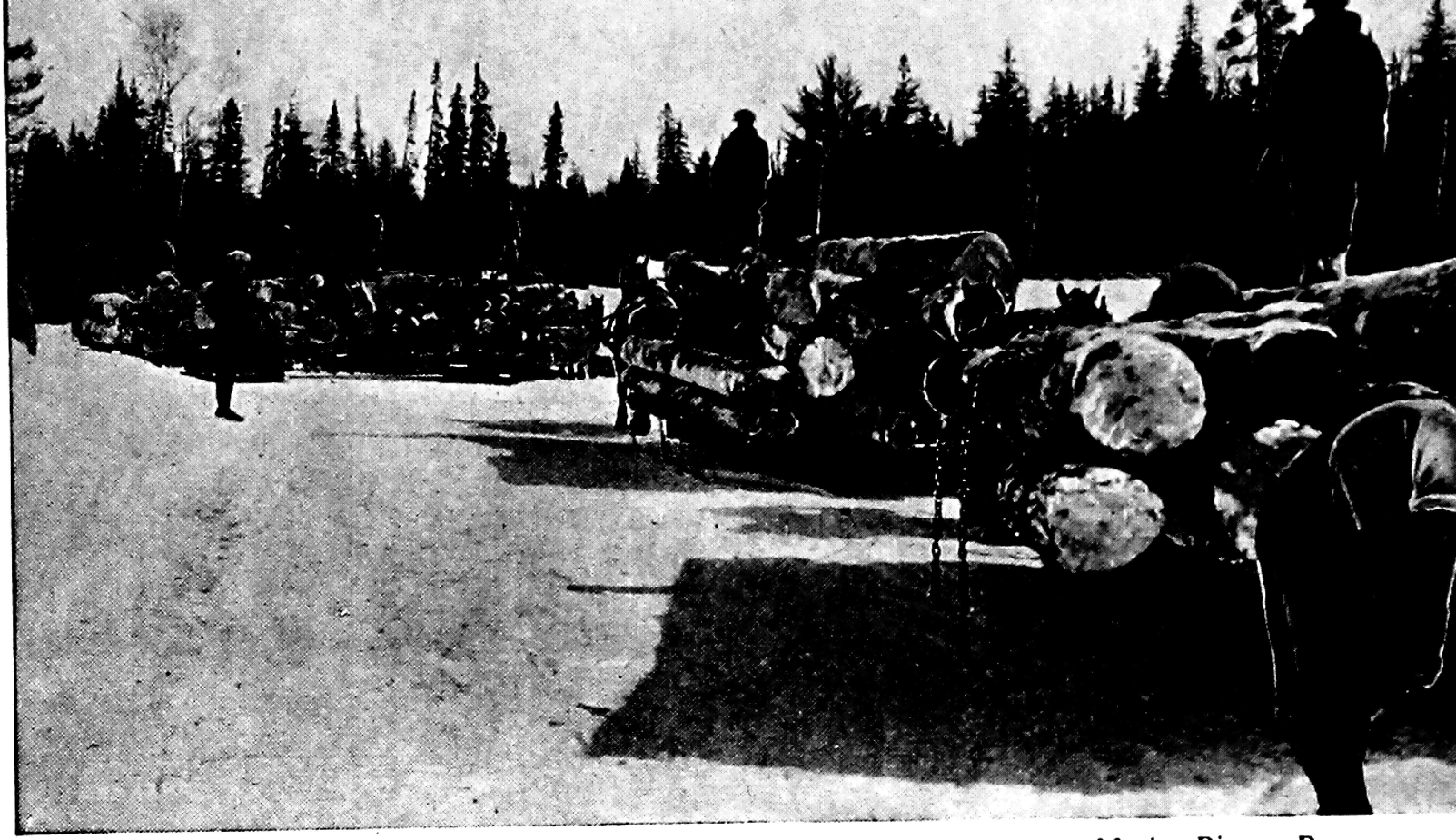
The tops and branches are removed and the tall stems cut into logs by means of the two-handed saw, as in Fig. 14.

When the logs are ready, another gang drags them to some central point. Here the " teamsters " take charge of them, load them on lumber sleds and haul them, by tractor or horses, to some river or lake where they are piled on the ice or on the

Fig. 14.—Sawing Timber, Temiskaming

[Canadian Government Motion Picture Bureau





[Canadian Government Motion Picture Bureau

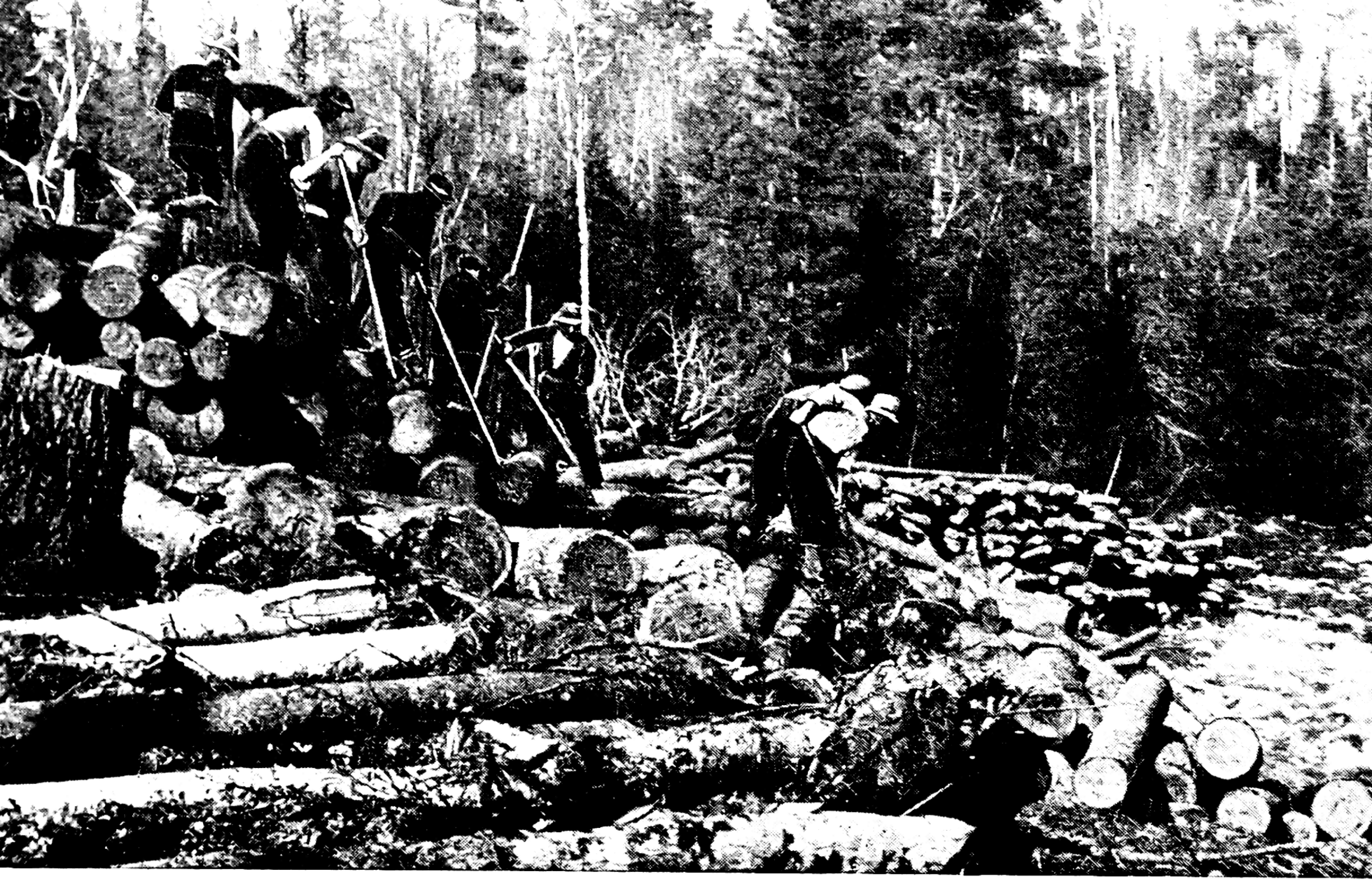
Fig. 15.—Hauling Lumber, Temiskaming

banks by the side of it. There they are in Fig. 15. Here the snow is all trampled down and there is no need for snow shoes. One of the reasons for logging in the winter is that the ground is then covered with hard slippery snow over which heavy logs, or heavily laden sledges, can easily be dragged.

Other gangs of men make roads or keep them clear : others, the " coasters," bring supplies of food, tools and other things on sledges which are hauled for a long distance through the forest.

Work stops at dusk and then there is a return to camp and supper. Only a cold meal is eaten at noon, but at night there is a splendid " spread " of fresh bread, baked pork and beans, molasses, rice and very sugary tea. When it is finished, someone will play a tune on a mouth organ and there will be singing and dancing and the telling of yarns, but all this does not last long. The men are soon in bed and asleep.

In spring, some of the men go home to their farms, but the rest prepare to bring down the logs from the camp to the mills. About April the ice in the streams thaws, the snow melts and there is plenty of water for the floating of the logs. In Fig. 16



[*Canadian Government Motion Picture Bureau*

Fig. 16.—A Dump of Logs being Pushed into a Stream

we see a dump of logs that was placed by the side of the stream in winter time. The men are now pushing the logs down into the rapidly flowing water. These men spend hours wading about in water that is icy cold. They have to make haste for the snow will soon disappear and the forest streams will have much less water in them. Then any logs that have not been sent away on the rushing water must stay where they are for another year. The river is soon full of reddish-brown logs that cover the water from bank to bank. Away they go crowding up against each other, bumping into one another, and jumping up and down like so many giant corks, for miles and miles.

If the river passes through a lake where there is little current the logs may be towed across it as a kind of raft, such as the men are making in Fig. 17, inside a boom formed of heavy timbers chained together.

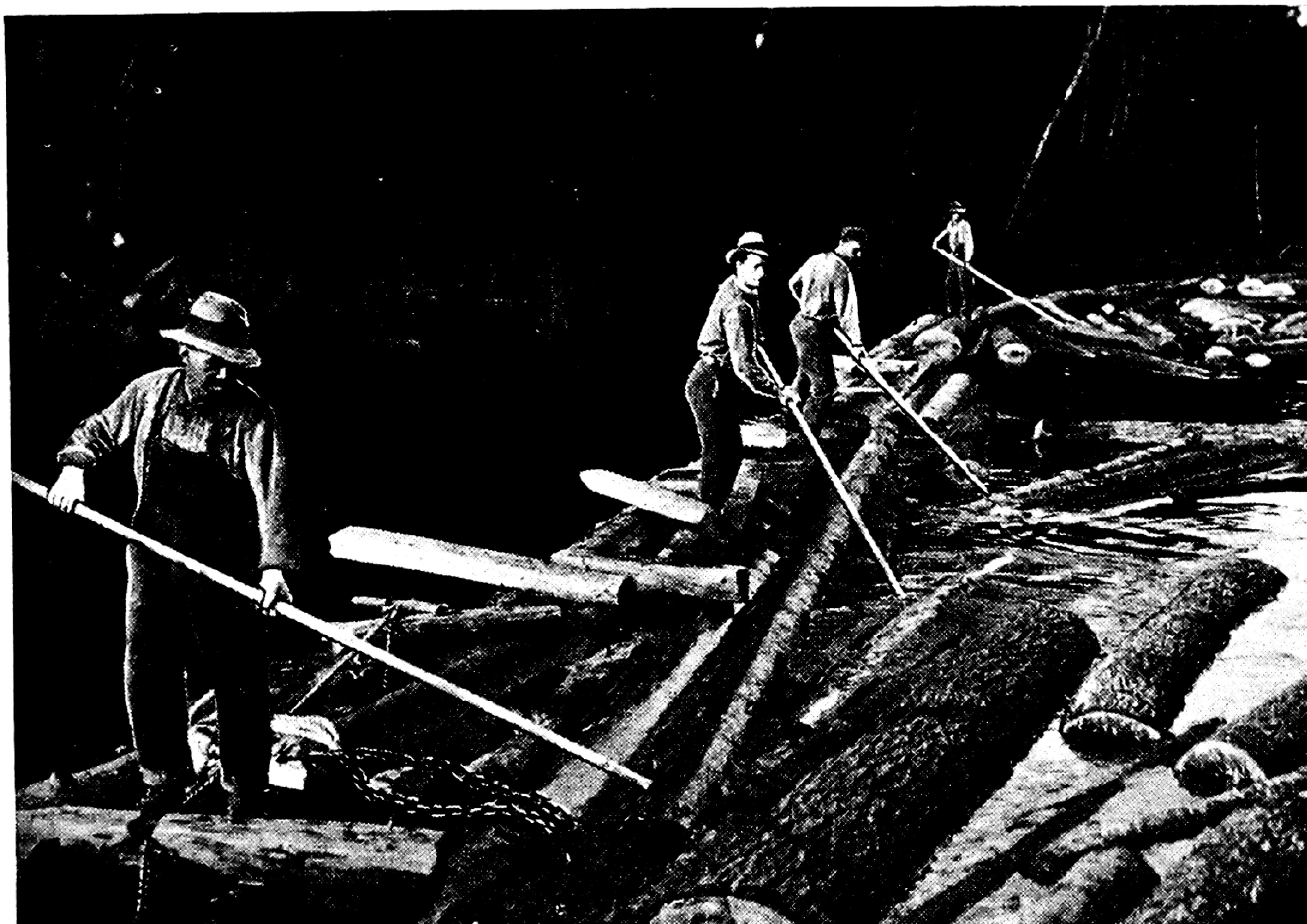
Sometimes a few of the logs stick amongst the rocks. Then the logs coming along behind cannot go on, and there is a huge jam with thousands of them piling themselves on top of each other. Men, called " river drivers," at once rush down to try to let off the jam before it grows too big. Each of them carries a bar of steel with a spike at one end and wears sharp nails in the soles of his boots. The men jump on the mass of logs to hunt for the one or two that are causing all the trouble. Some of the logs sink in the water as the men tread on them or twist and twirl under their feet, but so swift are the drivers that, as a rule, they jump from one log to another before they can be thrown into the water.

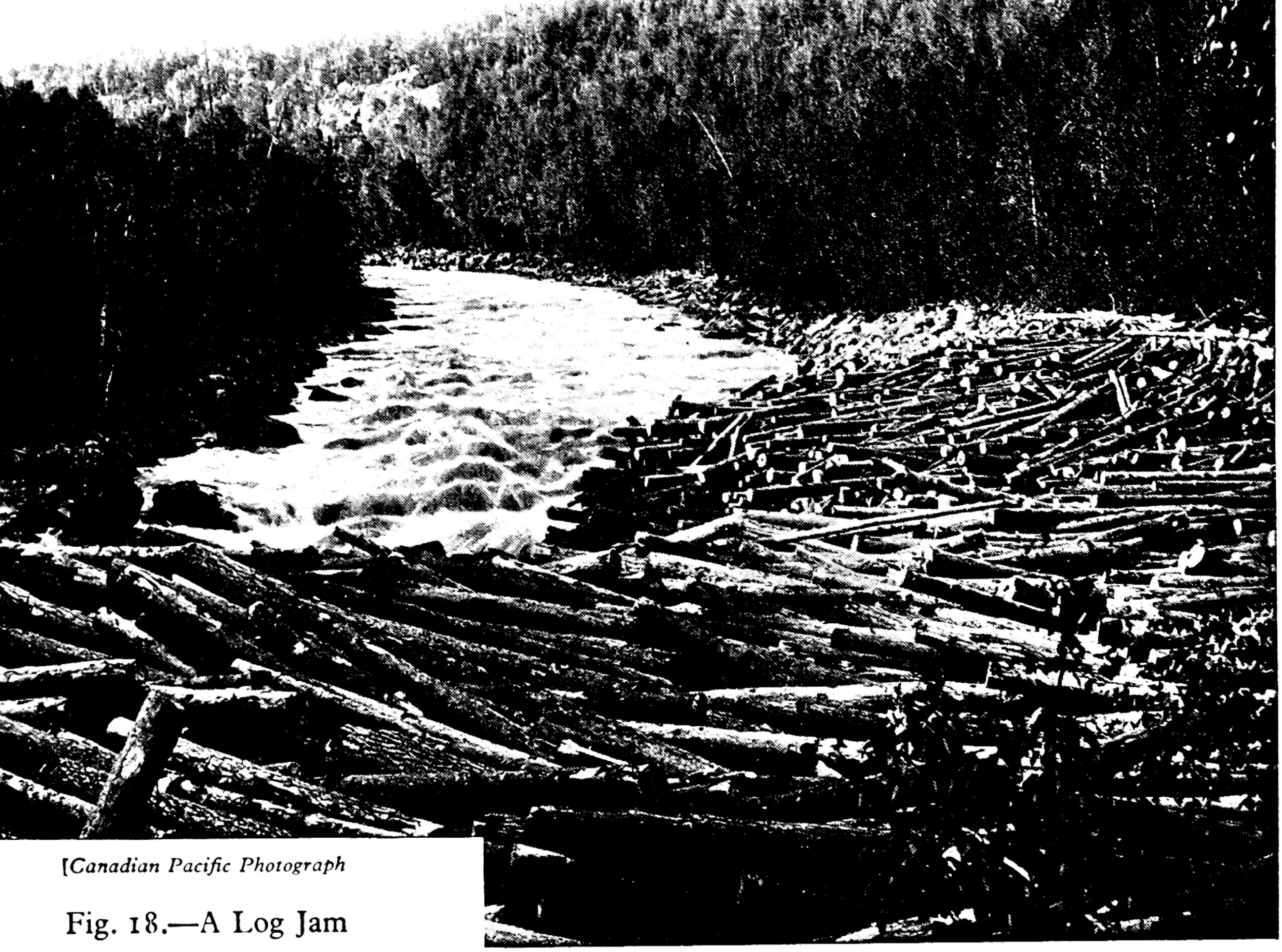
Presently they find the logs that are holding up all the rest. With the steel bar they loosen these and set them free. In a minute, with a great roar, the whole mass begins to move, and the drivers race for their lives over the tumbling, twisting, hurrying logs till they reach the river bank. If a man slipped he would almost certainly be either drowned or crushed by the weight of the torrent of timber.

Sometimes there are no men near when the log jam forms

Fig. 17.—Poling Logs along a Boom

[*By courtesy of the Timber Commission for Eastern Canada*





[*Canadian Pacific Photograph*

Fig. 18.—A Log Jam

and it remains high and dry while the river falls. In such a case it has to stay till the river rises again during the next spring thaw. This is what has happened in Fig. 18.

The logs do not reach the mills till about the end of August or the beginning of September. Thus it takes a whole year to bring a tree from the forest to the mill where it is made into pulp.

Not so long ago, the trees that were cut down in eastern Canada were sent to the great saw mills in Ottawa and Montreal to be sawn up for lumber. But now, most of the big trees, in places where they can easily be reached, have been felled, and only smaller trees, suitable for making paper pulp, are left. In British Columbia, however, big trees suitable for timber are still plentiful.

The forest is a very important place because it supplies other countries with large quantities of wood for use either as timber or in the making of paper. But the business of lumbering can be carried on only in those places from which the trees can be removed after they have been felled. It is difficult, for instance, to remove trees from the forest on the west of Hudson Bay.

It is for this reason that, though the forest stretches all across Canada, the chief lumber areas from which logs can easily be sent down the streams to a river or to the sea are in Nova Scotia, New Brunswick, Quebec and Ontario in the east and in British Columbia in the west.

WORK TO BE DONE

1. Why cannot one sail up the river Ottawa in winter ?

2. At what time of the year are logs sent down the stream ? Why then ?

3. How does the climate help lumbering (*a*) in summer, (*b*) in winter ?

4. Is the country flat ? Is it mountainous ? (Look at the pictures.)

5. Of what are the houses built in a lumber camp ?

6. Write two sentences about what the lumbermen eat.

7. How do people manage to go easily over deep, soft snow ?

8. Name two ways in which the trees of the forest are protected against the cold in winter.

9. Of what use are the rivers to lumbermen ?

10. Do you think that the rivers flowing to Hudson Bay are as useful as those flowing to the St. Lawrence ? Say why.

11. Is the forest land frozen in summer ?

12. What do most of the lumbermen do in summer in (*a*) Newfoundland, (*b*) Eastern Canada ?

13. What do you know about the climate of Northern Ontario in (*a*) winter, (*b*) summer ?

14. Where is the forest land in Canada ? What parts are most useful ?

15. Name the kinds of trees seen in Fig. 18.

CHAPTER IV

THE WHEAT FARMER

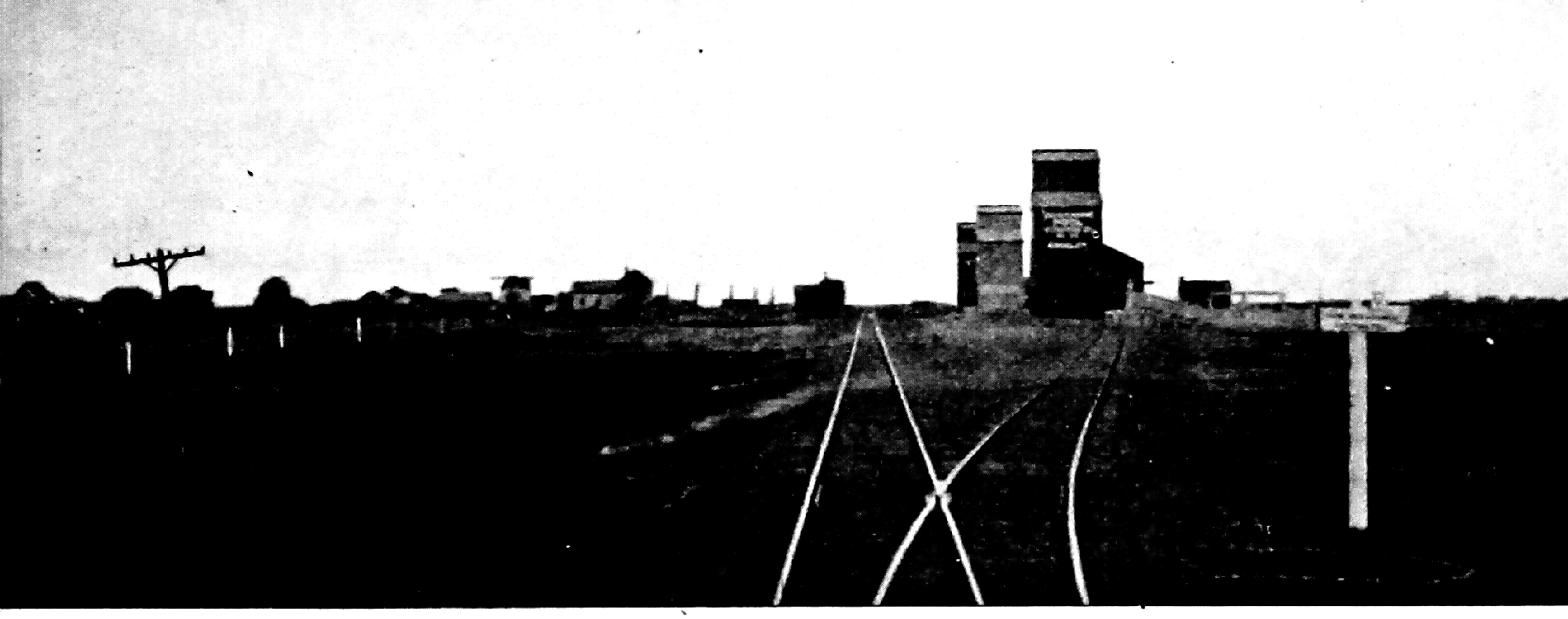
On a map of Canada find the following as you come to them: Ottawa, the route of the Canadian Pacific Railway, Lake Superior, Port Arthur, Fort William, Winnipeg, Lake Winnipeg, Manitoba, Saskatchewan, Regina.

WE said, in the last chapter, that most people in Canada were farmers. We are now going to visit a Canadian farmer, a wheat farmer. We take a train from Ottawa and travel on the Canadian Pacific Railway. At first our route takes us through the same country as that on the way to Temiskaming. Then we branch off but we still go on through the forest of pines and spruces. By and by we pass along the shores of Lake Superior and arrive at Port Arthur and Fort William. Beyond Fort William the land is still one of forest and lake until about 50 miles from Winnipeg when the forest suddenly stops and we are in a land of woodland and prairie.

We pass south of Lake Winnipeg, through Winnipeg, the chief city of the province of Manitoba, and enter Saskatchewan the chief wheat-growing province. At Regina, the capital of Saskatchewan, we leave the train. The journey from Ottawa to Regina has taken us three days.

All round us is prairie.

The word " prairie " means a meadow and we have to think of this kind of country as a great wide meadow, as big as a sea and almost as level, that was, at one time, mostly covered with grass. Some parts of the prairie are perfectly flat ; elsewhere there are low hills but nowhere are there any high mountains. Once upon a time there were no trees except near the rivers



[*By courtesy of J. H. Parkinson*

Fig. 19.—Edgeley, Saskatchewan

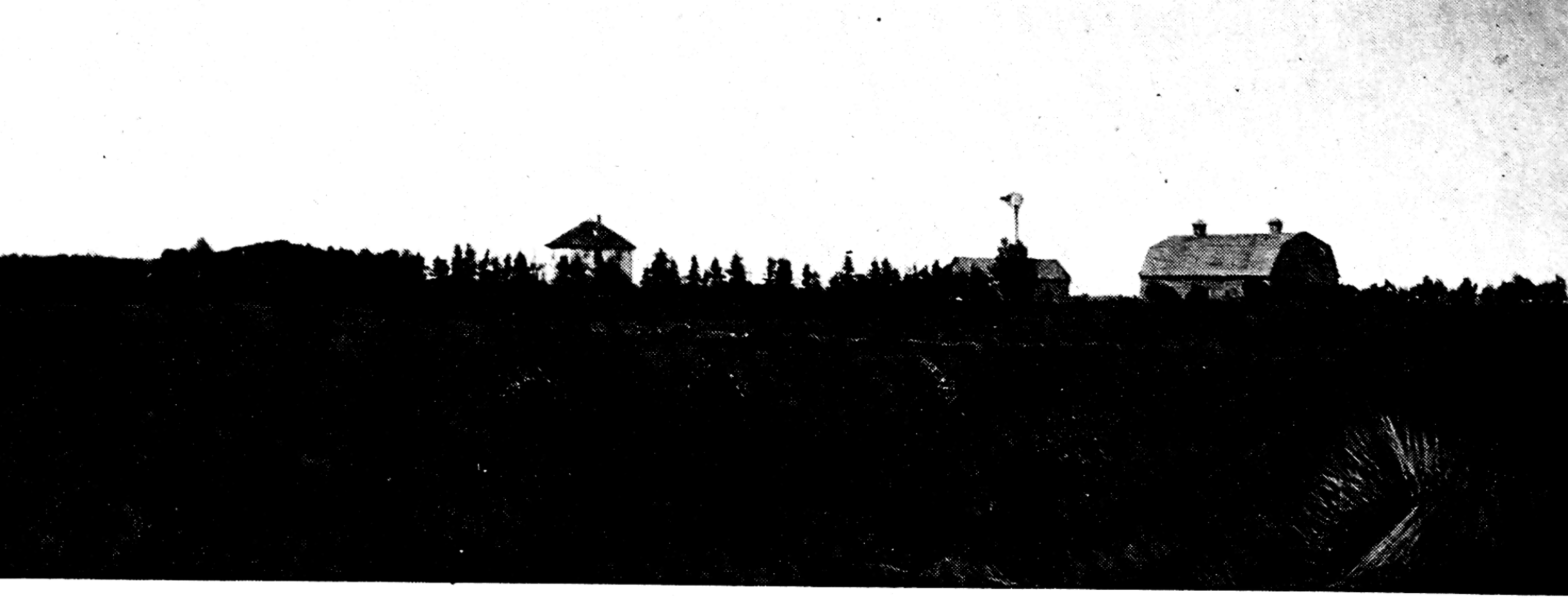
The Village is on the left: the big buildings in the centre are Elevators

and the prairie looked very bare. Now, however, many trees are to be seen near the farms where they have been planted either for shelter or for fruit.

The farmer meets us at Regina with his motor car to take us out to his farm. Motor cars are very common in Canada and every farmer, except the very poorest, has one or more. The journey to the farm, which lies about 45 miles to the north-east of Regina, is not a long one. It brings us to the little village of Edgeley which has a railway station from which the wheat, grown on the farms round about, is sent away. There are only a few houses in Edgeley: they are seen on the left in Fig. 19. The tall buildings on the right are the elevators at the station. In them the wheat is stored.

The farm to which we are going, one of 1600 acres, is about a mile from the station. This is much nearer to a station than most farms are, but every farmer has to live not too far from a station if he wishes to send his wheat away after it has been harvested.

The farmhouse and buildings, seen in Fig. 20, are built of wood. The square house, of two storeys, is on the left beyond the small trees that the farmer, Mr. Rodgers, has planted for shelter. These trees have not yet had time to grow very tall. On the right are great barns. One of them



[*By courtesy of J. H. Parkinson*

Fig. 20.—A Farm near Edgeley, Saskatchewan

has a roof of such a shape that it gives more space than a roof of ordinary shape would give. To the right of this barn are fruit trees. Above the roof of the smaller barns can be seen the top of the windmill that is used to pump water. On the left of the picture are some low bushes.

The house has only one chimney because there is only one fire, but that fire burns in a huge stove and, during the winter, is never allowed to go out during either the day or the night: it keeps the whole house warm all the time. As there is very little wood in the prairie the stove burns coal.

We are going to watch our farmer for a whole year and we begin in December. It is very cold and all the rivers and pools are frozen. But the sky is blue, the air is dry and the ground is covered with a thin sheet of hard, sparkling snow. There is, however, not enough snow on the prairie to keep the ground warm during the winter, and there are few winter sports like those in the east of Canada where the snow lies much deeper.

Winter on the prairies is the time when the farmer can take a holiday, for he can do little with the frozen ground. It is the time for skating on the ice, playing hockey, paying visits to friends, parties and the country dances that take place in the little country schools. At this time motor cars can be used only when there is very little snow. Their place, when there is more snow, is taken by sledges drawn by horses.

There is, of course, some work to be done. The animals have always to be fed and attended to, and mother is always busy with the house-work.

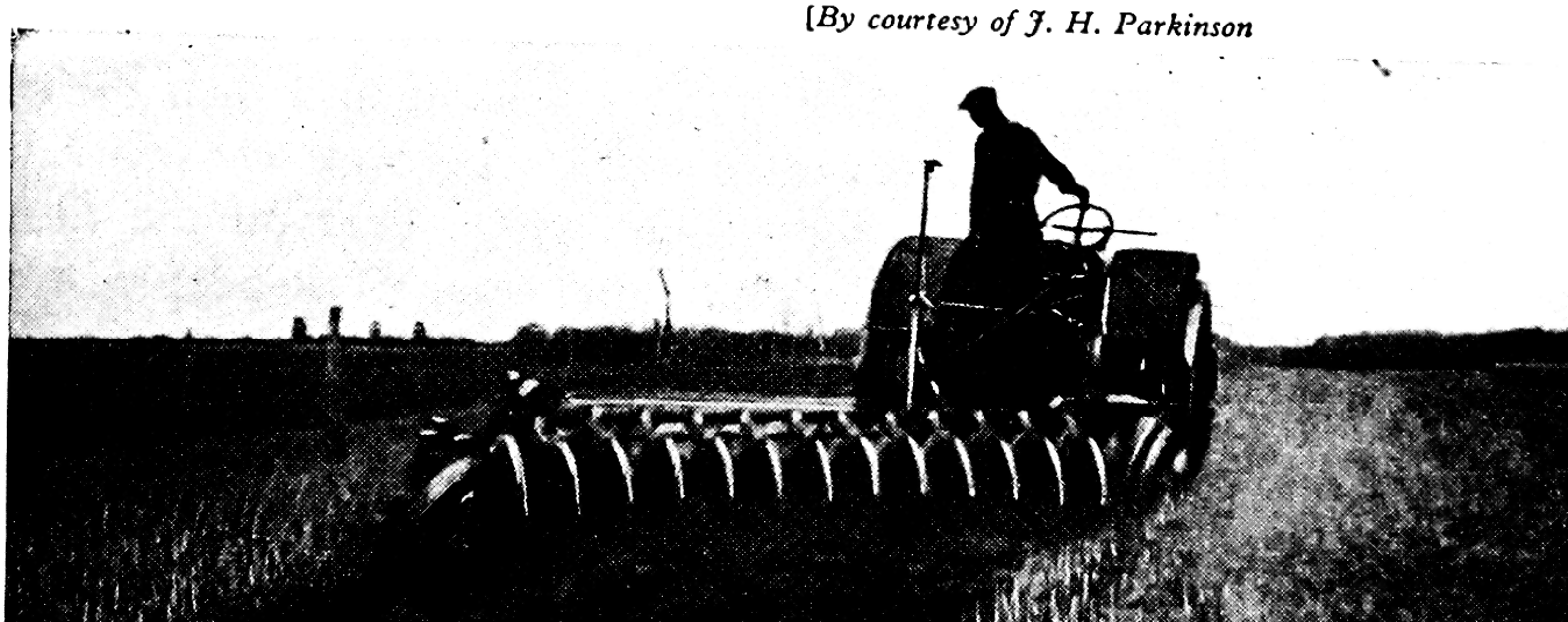
The children enjoy the winter just as much as their parents. Because the air is dry, the cold is not so trying as in Britain, and the youngest children play out of doors almost every day. In fact, all over Canada, one can play out of doors nearly every day all the year round.

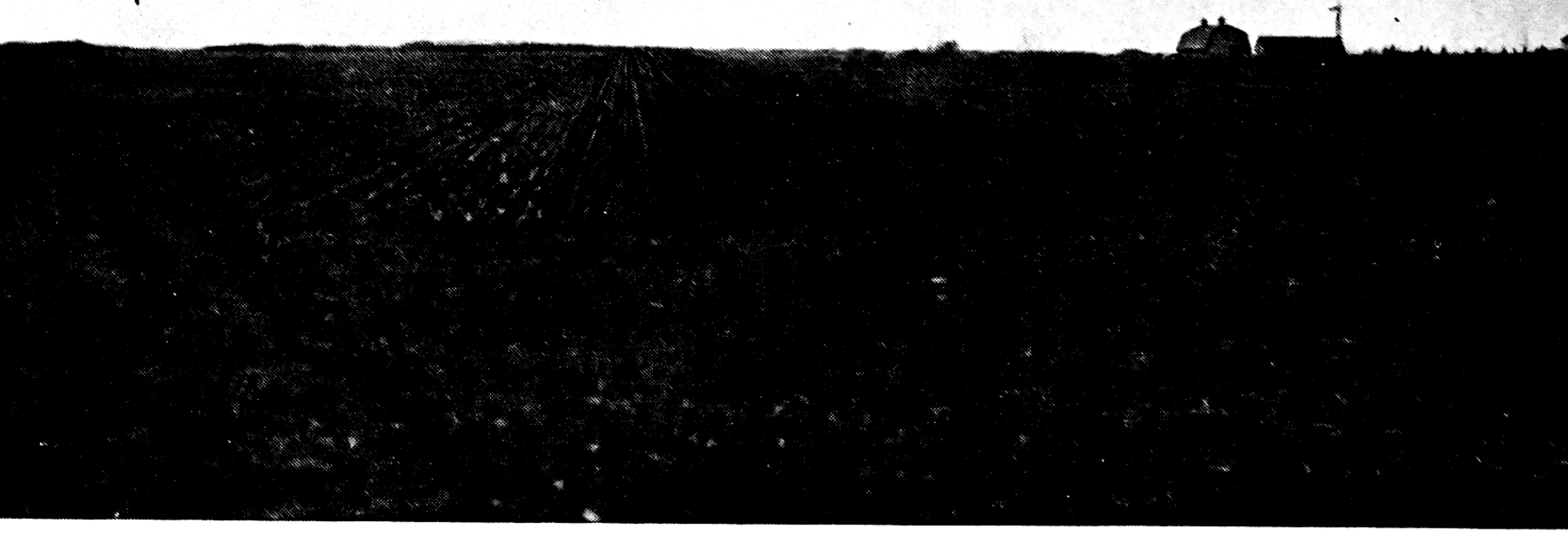
As the house is kept warm by central heating the same kinds of clothes and underwear are worn inside the house during both winter and summer. But outside the house warmer clothing is needed. People wear heavy cloth coats, or coats of fur and leather, woollen mittens or gloves, woollen caps and overstockings and, if the weather be very bad, goloshes or overshoes.

In the spring, when the frost and snow have melted, the farmer begins to plough. In Fig. 21 we have a field that was sown with wheat the year before. In the distance are the bushes close to the farm. On the left, still farther away, are the elevators at Edgeley. The plough, which is being drawn by a tractor, is not like those used in Britain. It is called a disc plough and has thirteen little discs or wheels. As it moves along, the discs cut into the soil and turn it right over so burying the stubble and roots of the wheat of the year before. Ploughing the big fields of this farm takes a very long time but it would take much more if horses were used: they would move more

Fig. 21.—A Disc Plough on the same Farm
The Elevators of Edgeley Station are in the distance on the Left

[*By courtesy of J. H. Parkinson*





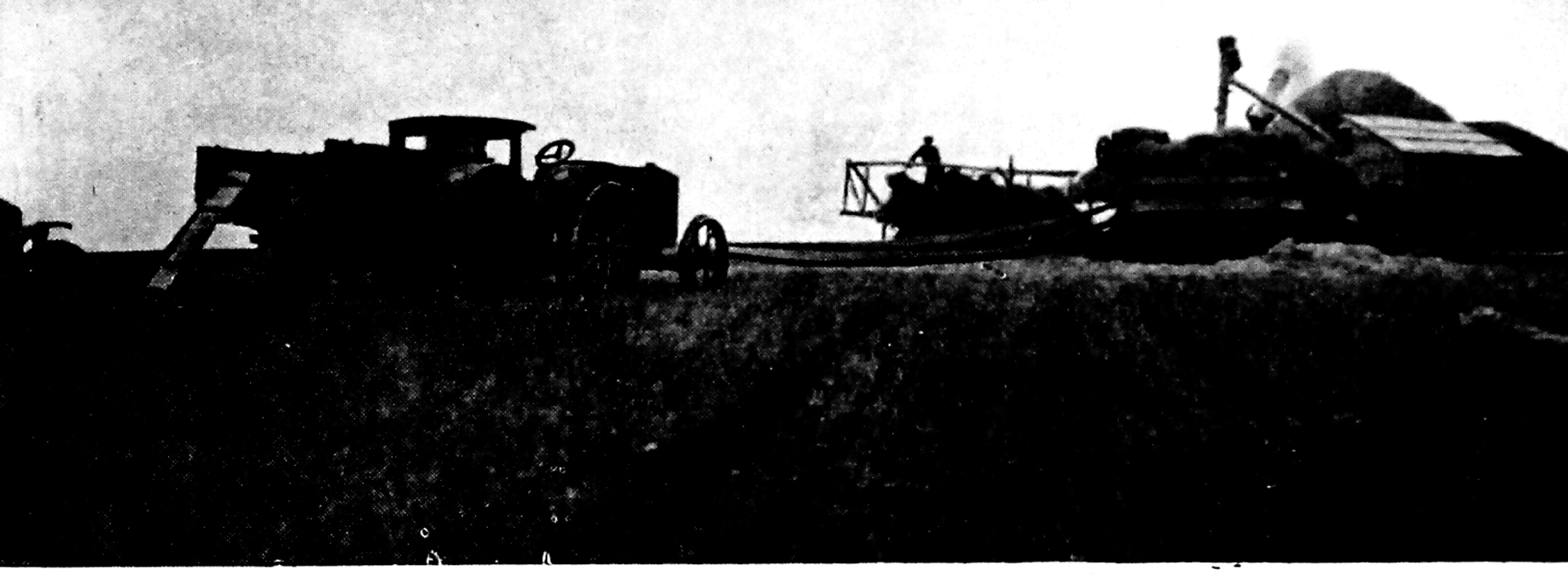
[By courtesy of J. H. Parkinson

Fig. 22.—Land partly Ploughed on the same Farm.
The Farm Buildings are seen on the Right

slowly, and any plough that they could draw would turn over much less ground at a time. Even with a tractor the farmer must be up early, morning after morning, if he is to have all his ground prepared by the time that the wheat has to be sown.

The rough surface left by the plough is harrowed to break up the lumps of earth and rolled to make it firm and smooth. It is then ready for sowing: again big machines are used. On each machine there is a box that holds the seed. As the machine moves across the field it makes little furrows, into which the seed runs through small tubes, and covers them up again with the fine soil.

Sowing, like ploughing, takes a long time and by the time that the last field is sown the first field is green with the sprouting grain. Even when all the seed has been sown there is still plenty of work to be done on the farm during the three months while the wheat is growing. Horses and cattle have to be fed, carts and other things have to be mended and fences have to be repaired. All this time the farmer anxiously watches the wheat, first the blade, and then the ear and then the ripe corn in the ear until the time of harvest which is the very busiest time of the whole year on the farm. During August Mr. Rodgers and his work-people are up every morning long before sunrise.



[By courtesy of J. H. Parkinson

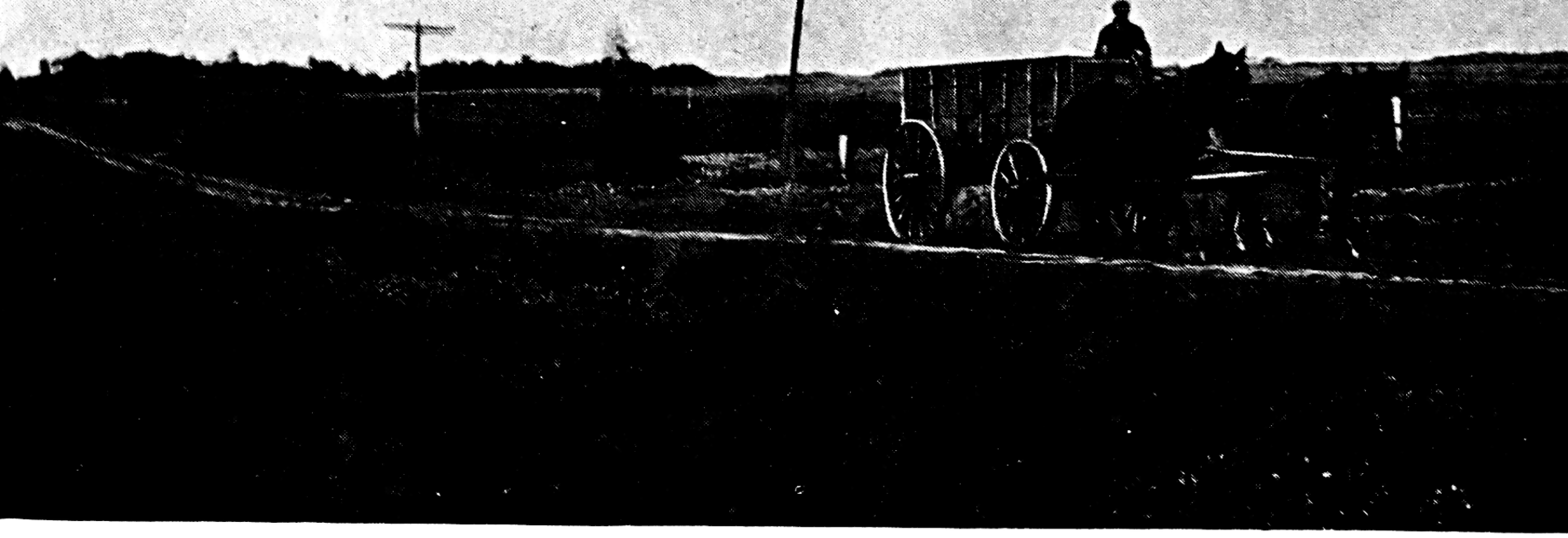
Fig. 23.—Threshing on the same Farm

The wheat is cut by a " binder." This machine cuts the wheat, binds it into sheaves and throws them out on to the field. Behind the binder come the men who stand the sheaves upright, six or seven together, in long rows across the field, so that the grain may dry.

Later on the sheaves are threshed, as shown in Fig. 23, by a machine that parts the grain from the straw. On the left is a tractor such as was used to draw the plough. Here it is being used to drive the machine that does the threshing. If you look carefully you will see the driving belt passing from the tractor to the threshing machine on the right. The machine is hidden by a horse-drawn wagon that is bringing to it the sheaves of wheat.

The sheaves are fed in at one end of the machine. Out of the other come two golden streams, one of bright clear grain that passes in one direction and another of straw that is blown out, in another direction, through a tube. In the picture the stream of straw looks like smoke. The ever-growing pile that it makes can just be seen beyond the wooden hut. Much of the straw is burned because there is little use for it.

On some farms a wonderful machine called a " combine " is used. This not only cuts the grain but threshes it as well, so that no separate threshing machine is needed and the farmer does not want more than four or five extra men to help him to harvest his crop. When the wheat has been threshed,



[*By courtesy of J. H. Parkinson*

Fig. 24.—A Cart on the Road leading from the same Farm

the grain is loaded into a farm wagon like that in Fig. 24. When the wagons have been filled they must be driven to the station. Now the country roads, like that in the picture, are of soft earth, and deep ruts are soon made in them by heavy loads. If the weather has been fine and the roads are dry and hard the wagons will go to the station as soon as they are full. If, however, there has been rain and the deep ruts are worse than usual the wheat may be kept at the farm till the roads are fit for traffic.

At the station the wheat is unloaded to be stored in one of the " elevators " shown in Fig. 19 till it is wanted. The elevator is really a tall bin. The wheat is sucked up to the top of it through a long tube, called an " elephant's trunk," and then dropped into a bin below. Through such trunks it will be poured out again into railway wagons when it is taken away to be sent long distances, perhaps to Britain.

As soon as the threshing is finished the farmer hurries to plough as much of his land as possible before the frost comes to stop him and compel him to leave the rest till the spring. Hard frost, though it puts a stop to the ploughing, does some very useful work. Each little particle of moisture in the soil is turned into ice. As we know, ice floats on water because it is lighter, and it is lighter because a bit of ice takes up more room than the water from which it was made. Hence the little particles of ice in the soil take up more room than they did as moisture, and break apart the little bits of soil in which they lie. In this way they make a fine surface for the seed in the spring. It is for this reason that the farmer makes haste to plough as much of his land as possible in the autumn and to leave as little as possible to be ploughed in the spring when the land thaws and he can work on it again.

The farmer toils hard and long, but there is always someone else who works just as hard, perhaps harder—his wife. She has to do all her own house-work and has no help except what she can get from her children. Fortunately, for her, in Canada, children learn to do things about the house and to make themselves useful almost as soon as they can walk.

As soon as breakfast is over and father has gone to work, she packs the children off to school, where, of course, there are only very few pupils.

When the children have gone, she milks the cows, separates the cream, cleans the house, washes up and makes the beds; after that she cooks the dinner, washes up the dinner things, bakes bread, churns butter, washes and irons clothes, makes tea, washes up again, milks the cows again, separates the cream again, darns and mends and then it is time for bed.

Before so much machinery was used a good many extra men were employed at harvest time, and she then had to feed not only her husband and children but all the extra workers also. Cutting, carrying and threshing wheat was very tiring and the workers had enormous appetites, ate huge amounts of food and drank gallons of tea.

At breakfast there were porridge, sausages, fried potatoes, scones and treacle. At dinner (about half-past eleven) there were beef-steak, potatoes, stewed apples and more scones and treacle. About half-past six or seven came tea, a meal nearly as big as dinner, with jam that mother made herself, new laid eggs from her chickens, golden scones and fresh bread that she baked. She cooks meals of this kind all the year round for her own family.

There are, of course, other kinds of farms in Canada. Not all of them grow so much wheat as this farm of Mr. Rodgers. Many farms are much farther from a station and the children have much farther to go to school. As there are no buses, the journey is made sometimes by cart, sometimes by pony and sometimes by motor car.

But everywhere on the prairie it is cold in winter and hot in summer. There is not much rain or snow and the most has to be made of what falls. The prairie is a land where everybody must work hard in order to live.

WORK TO BE DONE

1. Draw a map of the province of Saskatchewan. On it mark the Canadian Pacific Railway, Regina and Edgeley.

2. Is the farm seen in the pictures in one of " the parts of the prairie that are perfectly flat " ? How do you know ?

3. What does the windmill in Fig. 20 tell us ?

4. Write out this sentence : " It is very hot in summer in ." In the blank space put one of the following names : Baffin Land, Newfoundland, Temiskaming, Saskatchewan.

5. How is it that there are so few trees in the prairie ?

6. Where does the farm get its water ?

7. Why does the farmer plough his land ?

8. Name one thing that the farmer does in each of the months, January, April, May, August, September.

9. At what time of the year was Fig. 20 taken.

10. What is an *elevator* ? Describe one.

11. Write three sentences to tell of things you have learned about ice in this book.

12. Look at Figs. 7 and 20 and say all you can about the differences between Quidi Vidi and Edgeley.

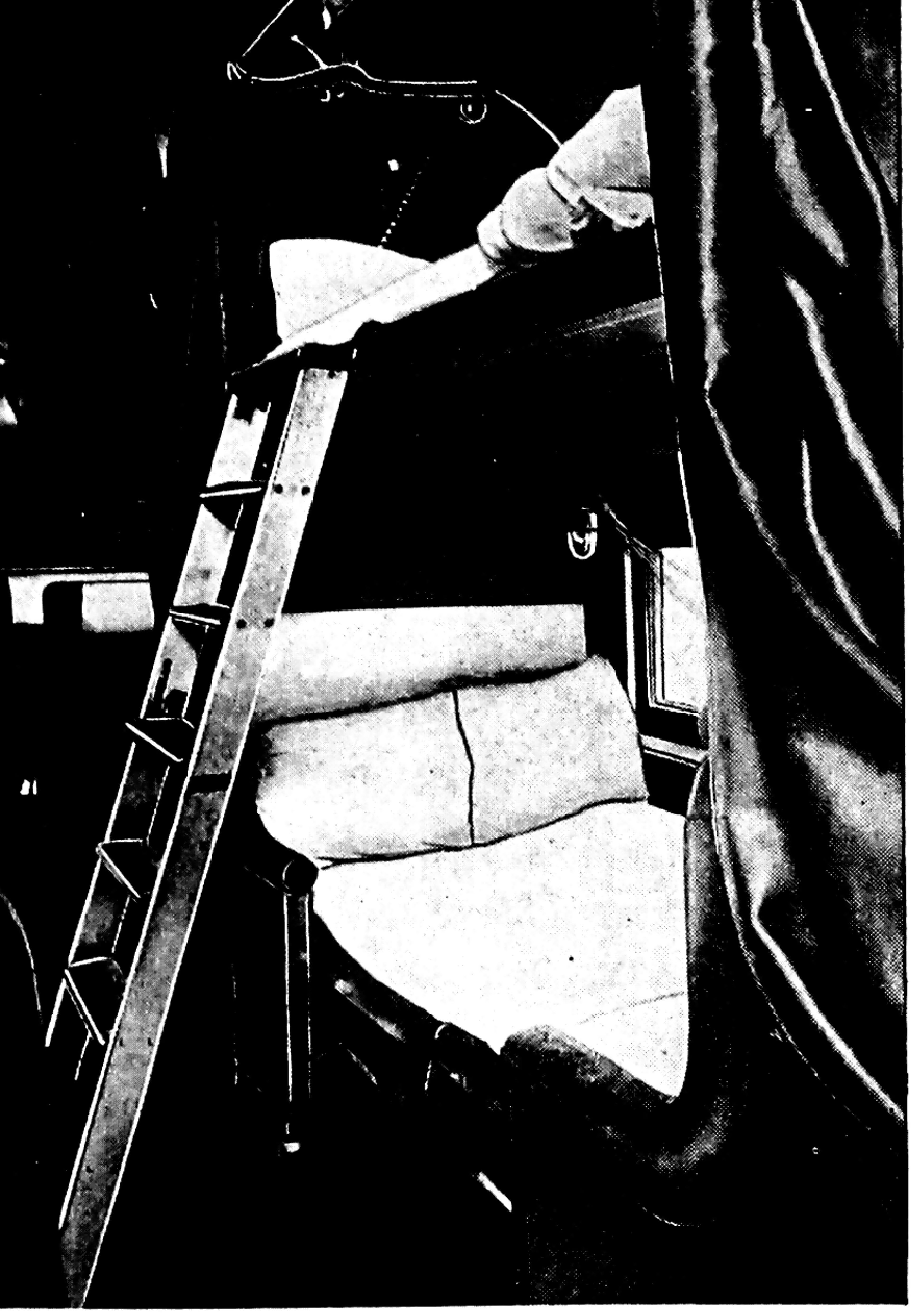
CHAPTER V

CROSSING THE CORDILLERA

Find on a map as you come to them : Regina, Alberta, Calgary, Rocky Mountains, Pacific Ocean, Banff, Kicking Horse Pass, Columbia R., Selkirk Range, Fraser R., Halifax, Vancouver, Winnipeg, Calgary, British Columbia.

LET us go back to Regina and pick up our train again on the Canadian Pacific Railway. It is now towards the end of September. The train first carries us across another part of the prairie, still through one long line of farms and grain fields, little towns and many stations with their tall elevators. The land looks flat but actually we are slowly going higher. The rise, however, is so gentle that we do not notice it. All round us, in Alberta, we can see that the land is drier and that there is much grassland on which herds of cattle are grazing. This may remind us of our visit to the pampas in Book I.

We arrive at Calgary, the capital of Alberta, and notice that there are many stone buildings and houses. We are now in a district where stone is plentiful and cheap. Soon we see, in the distance, all along the horizon what looks like a line of fleecy clouds. As we go nearer we see that these are not clouds but mountains, the Rocky Mountains. It does not look as if it would be a very easy matter to cross them, for they are high enough to be covered with snow. It is quite certain that no train could pull us straight up the sides of those steep slopes. Moreover, the Rocky Mountains, as the map shows, form only the first part of the great stretch of high ground called the Cordillera, which we must cross before we reach



[*Canadian Pacific Photograph*

Fig. 25.—Railway Car with Sleeping Berths made up

the Pacific Ocean. The crossing of the whole of this highland will take us more than a day.

When people travel, as we have been travelling, for days at a time, something has to be done to make them comfortable, especially at night. In both North and South America the cars usually have two rows of seats, one on either side of a passage that runs down the middle. At night a porter always a negro in North America, sticks two seats together to make a lower sleeping berth and lets down the upper berth which is hinged above the window. In Fig. 25, beyond the steps, you can see an upper berth in the position it occupies above the seats during the day time. As the picture shows, the person who sleeps in the upper berth goes to bed up a ladder. During the daytime the bedding for both berths is stored in the upper berth. At night partitions are put between the seats and curtains in front of the beds. Passengers have to dress and undress, as best they can, on the beds.

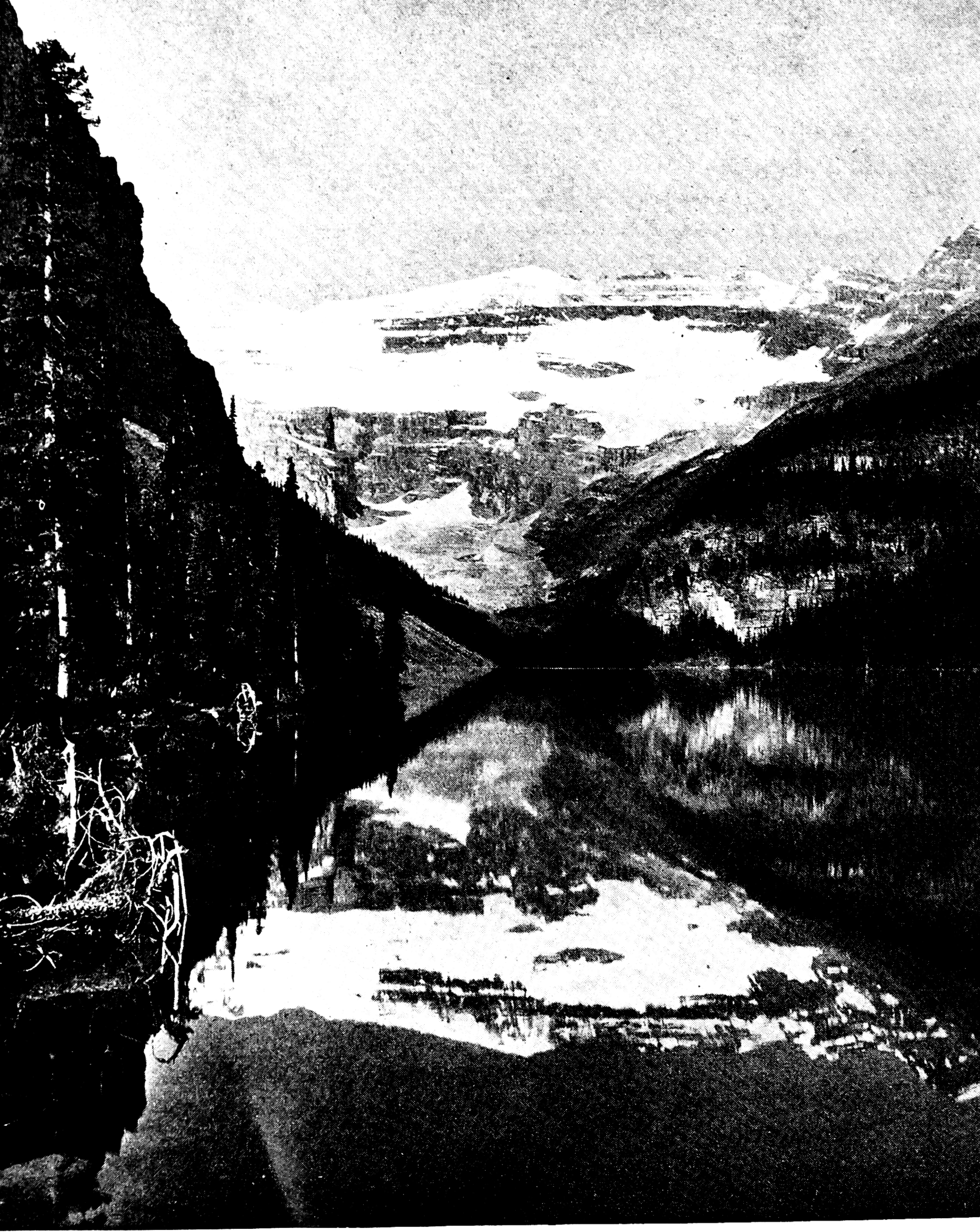
As we cannot climb straight up the slopes of the Rocky Mountains we make our way through the valleys as far as we can. We have now left Calgary, which is on the banks of the Bow R., and are following the valley of that river. It leads us up to Banff. Banff is in one of the National Parks that have been set aside to preserve the wild life of the country. These parks are not like the small ones in Britain : they cover thousands of square miles of mountains, forests and lakes. If at Banff we leave the train for a while, or " stop over," as they say in Canada, we can visit Buffalo Park, where we shall find a few bison. Most of the animals seem to know that they are safe from harm. Even the bears, about the big hotel at Banff Station, will eat out of your hand and the squirrels come almost close enough to be touched.

Further up than Banff, but still in the park, is Lake Louise (Fig. 26). In the picture you see the high mountains with snow on their sides though there are some parts so steep that snow will not lie on them. Framed in the tall thin pine trees that grow in this part of the country is the calm lake, set in its narrow valley and reflecting like a mirror the world around it.

A little farther on the line reaches the Kicking Horse Pass, 5300 feet above the sea. As in the case of many other mountain railways the last climb over the very top of the pass is cut out by means of tunnels. When the train leaves the last tunnel it makes use of the valley of the Kicking Horse R. Sometimes it runs by the side of the river, sometimes it leaves it to pass through a tunnel. The roar of the river and the thunder of the train echo backwards and forwards between the steep walls on either side until at last, at a place called Golden, the Kicking Horse R. enters the valley of the mighty Columbia R., one of the great rivers of North America. At Golden the valley connects with a route to the copper, lead and gold mines of Kootenay.

We have now crossed the Rocky Mountains but by far the longer part of the journey is still in front of us. The scenery becomes grander and grander and we have our first view of the Selkirk Range. For 20 miles, with these mountains on our left, we follow the Columbia river and watch the mountain torrents tumbling in splendid waterfalls through narrow gorges cut deeply into the steep sides of the valley, while the Columbia itself rages and foams below us.

Now and then we run through big snow sheds, like that in Fig. 27, that are built to protect the line from snow that slips



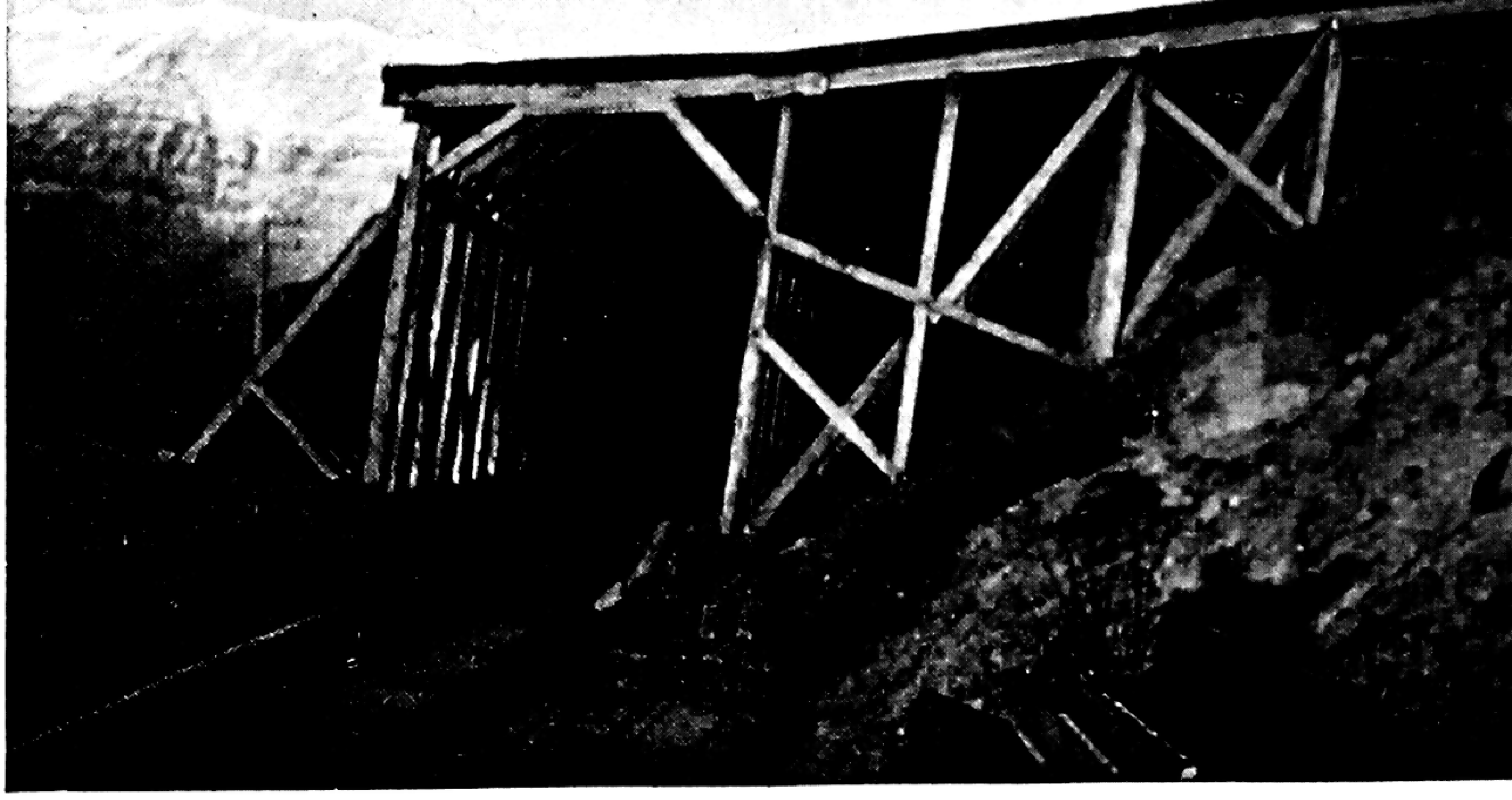
[Canadian Official News Bureau

Fig. 26.—Lake Louise

Fig. 27.—Snow Shed

This protects the line from snow that slips down from above in winter

[*By courtesy of J. H. Parkinson*

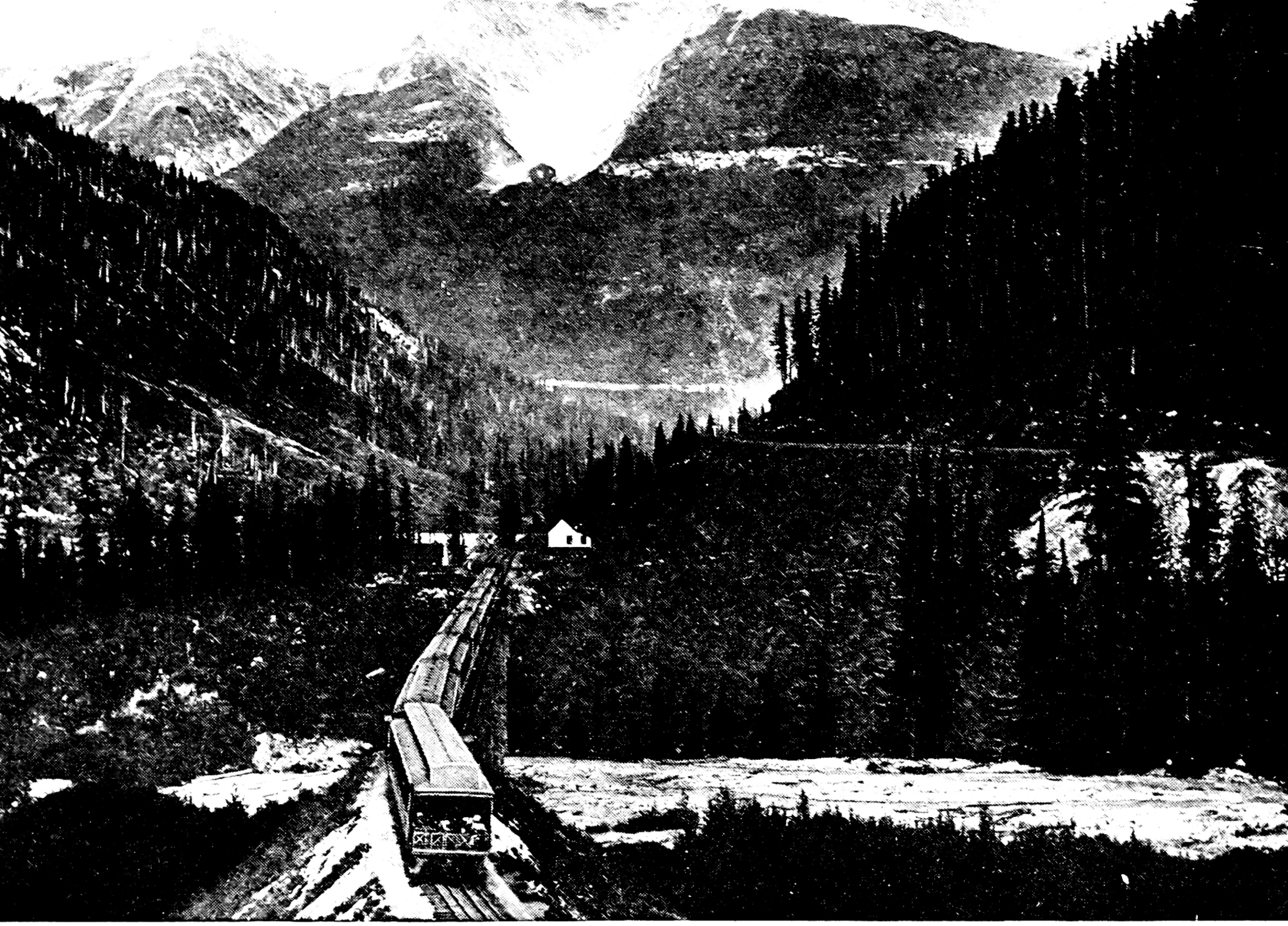


down from the slopes above. The sheds are built of enormous beams of fir and have strong, thick, sloping roofs. In summer they are sometimes set on fire by sparks from the engine of a passing train, and barrels of water are placed here and there to be used in putting out the flames.

The line leaves the Columbia R., which makes a loop, 100 miles long, to the north, to go round the Selkirk Range. The railway crosses direct: it ascends a narrow gorge, crosses a number of ravines by tall trestle bridges, and then passes under the summit by means of the Connaught Tunnel. This wonderful tunnel, 5 miles long, is the longest in America.

When the train comes out of the tunnel, we are at a station called " Glacier," so named because of the big glacier near the station. When so much snow falls on a country as to cover it deeply then an ice sheet is formed as in the centre of Greenland. When there is not so much, but still a great deal of snow it slips off the high ground into the valleys and, just as in Greenland, it is turned into ice by the weight above and very slowly moves downwards. This moving ice in a valley is a glacier.

Again we notice the same kinds of tall trees and that there is a great deal of snow on the mountains, as you can see in Fig. 28. This view was taken close to Glacier. The railway runs along the valley floor and crosses the stream in the foreground by a high bridge. Notice, at the end of the train, what is called an " observation car." Here people can go to watch the scenery through which they are passing.



[Canadian Pacific Photograph

Fig. 28.—Near Glacier Station

The railway follows this valley for another 40 miles to a point where it again crosses the Columbia R. on its way to the south. Another range, a little lower than the Rockies and the Selkirks, is climbed and crossed by a deep, narrow pass. Then, for more than 200 miles, by the valley of the Thompson R., the line runs westwards through deep canyons and by the sides of many lakes that fill the bottoms of some of the valleys. The mountains themselves are still steep and high.

Now all these great valleys and deep canyons in all these hundreds of miles from Calgary have been worn out, a speck at a time, through countless ages by—what do you think?—just water. Partly it is frozen water sliding slowly down in the form of ice and rubbing on the rocks below and at the sides. Partly it is the great waterfalls and rushing rivers that are always pushing rocks and stones forward and downward, rubbing bits off the rocks over which they pass and wearing away gorges and canyons. More wonderful still these great valleys are formed by little drops of water falling as rain and each carrying a bit of soil with it. In a hundred years, or even in a thousand years you would see very little difference, so you can think how long it must have taken to make the mountains and the valleys as they are now.

This wearing away has gone on not only in the part of the Cordillera which we have crossed but in the part we have still to cross and all over the Cordillera from north to south. In fact, all over the world, the same kind of wearing away is going on, slowly and surely, all the time.

At last we reach the Fraser R., the chief river of British Columbia. For part of the way the line runs on a track cut in the face of a cliff. It crosses ravines by tall bridges, and tunnels through parts of the mountain that are in its way. Finally, we arrive at a broader part of the valley. If we stop off at a station at this time of the year and go down to the waterside we may, if we are lucky, see the salmon, of which there are many in the Fraser, making their way upstream to spawn. As they swarm up the river, sometimes jumping as much as 15 feet to pass beyond a little waterfall, the stream seems to be alive with salmon. There are so many of them.

Look out for the bears. The bears, as a rule, are not often seen for they run to hide themselves whenever they know there is a man about. They live in the forests and eat fruit and berries, but as soon as the salmon come, they forget that man may be their enemy and make their way down to the water, where they are so attracted by the fish that they will allow a man to come quite close without taking any notice of him. There! just over there! is a bear with his wife and children, paddling about on the edge of the river, pulling fish ashore and patting them with their big, clumsy paws before they are eaten.

We continue our journey down the broad level valley for a good distance but, at last, we arrive at the city of Vancouver.

Vancouver is the western end of the Canadian Pacific Railway. The complete journey across the continent by means of this railway is full of interest but it is a very long one. If we leave Halifax, in Nova Scotia, on a Monday morning, we reach Winnipeg on Thursday, Calgary on Saturday and Vancouver on Sunday at mid-day. It takes the train nearly a week to cross the continent and more than a whole day, nearly thirty-six hours, to cross the western highland.

We have seen in the course of our journey, what a great deal of British Columbia looks like, but there are still some other interesting things for us to notice.

There are some farms but, naturally, not very many. In one valley, however, a great deal of fruit is grown. In this valley there are miles and miles of orchards.

There are forests where pine trees are cut down for lumber. These trees, as we have seen in the pictures, are different from those in the east. The most valuable of them is the Douglas fir which sometimes grows to a height of 300 feet. The work in the forest, too, is different. British Columbia has a mild climate, and is much warmer in winter than is the east of Canada so that logging goes on all the year round. The logs are taken out of the forest, not over frozen forest paths, but by hauling with steel cable and a donkey-engine to a railway that carries them away. Some of them go to saw mills to be sawn up into planks, not only to pulp mills to make paper, as in the east. The logging camps are not just collections of bunk houses and cook houses with nobody but men in them. Here women and children are to be found as well as men, and if the camp be a large one it will contain both a school and a church.

Lastly, there are the fish. There are many kinds of fish in the rivers and in the sea off the coast, but salmon is by far the most important. Most of the tinned salmon we buy at the grocer's comes from British Columbia and is caught in or near the mouths of these rivers which, like the Fraser, flow down into the Pacific Ocean.

As we have seen, this is the time of the year when the salmon are going up the rivers. Those which we saw farther back will lay their eggs in some clear, shallow, gravelly pool in the bed of the river, hundreds of miles from the sea. A little later the eggs will be covered with a small heap of gravel to keep them safe for a while. Under the gravel they remain all through the winter, but when springtime brings enough warmth to the river bed they hatch out and the water is full of so many tiny, wriggling baby salmon that no one could possibly count them.

As soon as the salmon are big enough and strong enough they make their way back to the sea. How they know they must seek salt water, and how they know that they will meet many enemies on the way we cannot tell, but they appear to know. They go very carefully, swim first one way and then another and, at the beginning of the journey, travel only at night. Other bigger fish wait for them and birds swoop down and steal them from the water.

In time, however, all those that escape reach the ocean and there live for two, three or four years, till they are properly grown up. Then in some wonderful way known to them they decide to make their way home, as it were, and towards the end of June, millions of them all fat, strong and healthy, turn their faces towards the land and return to the rivers.

Many of them, however, never do go up the river because they are caught before they can do so. They are caught in a number of different ways, of which trapping is the commonest. Long piles are driven out from the shore of the open sea and joined by wire-netting in such a way as to direct the salmon first into a big enclosure and then, through a small opening, into another enclosure called "the pot." From the pot the fish are hoisted by nets into a boat.

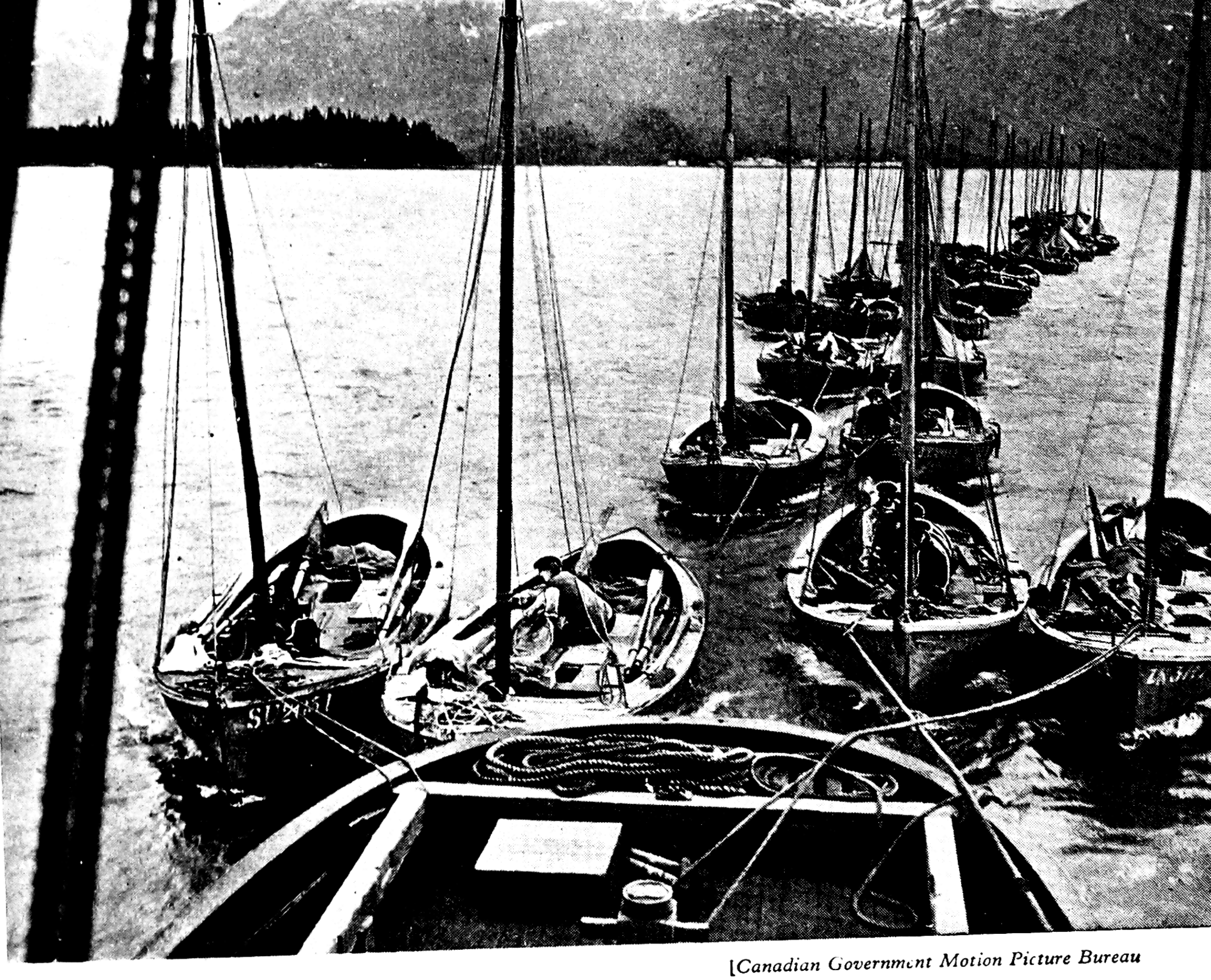

[Canadian Government Motion Picture Bureau

Fig. 29.—Salmon Boats being towed out to the Fishing Grounds in the Skeena River

Another common method is to fish with a net from a boat, now usually a motor boat. Some of the boats are large and heavy and carry a crew of seven to twelve men : others are smaller and have only two men, one to look after the boat, the other to handle the net.

In Fig. 29 we have a picture taken at the mouth of the Skeena River, more than 400 miles north of Vancouver. It shows a number of small boats being towed out to the fishing grounds by a larger one. There are two ropes trailing behind the larger boat and each of the smaller boats is fastened to one of these by a shorter rope. One by one the shorter ropes are loosened and each small boat then fishes in a patch of water by itself.

Fishing takes place at night. In the morning the fish are taken to one or other of the landing stages and unloaded. On the Fraser R. there are also many landing stages to which fish may be taken and piled higher and higher in a larger pen. Soon the salmon are on their way to a cannery.

The canneries are rather plain buildings, but they are spotlessly clean. Every floor, box and bench is washed and scrubbed, and scrubbed and washed, till there is not a speck of dust or dirt anywhere.

At one time Chinese cleaned the fish and cut them up by hand; now almost everything is done by a wonderful machine called the Iron Chink. (*Chink* is a nickname for Chinaman.) The Iron Chink is nearly as clever as the human one. It takes the fish, just as they come from the sea, at the rate of sixty or seventy a minute, cuts off head, tail and fins, splits open the body and removes the inside. There is no waste and no dirt. The machine shoots the cleaned fish into tubs of salt water where they are scrubbed, inside and out, by Indian women and white girls, after which another machine, with revolving knives, cuts them up in pieces each of the right size to fill one can.

The packing of the salmon in the tins is done by hand by women. These women wear bright clothes and sing as they work. With deft fingers they put the slices in the cans; the cans are whirled away on a belt; a machine puts on lids at the rate of one hundred and fifty in a minute; another machine fastens down the lids.

The cans are heated to cook the fish and to kill germs, and everything possible is done to see that the salmon shall still be sweet and wholesome even if kept for a long while. Finally, the tins are labelled and varnished and, about September or October, the steamers call at the canneries to take them across the oceans.

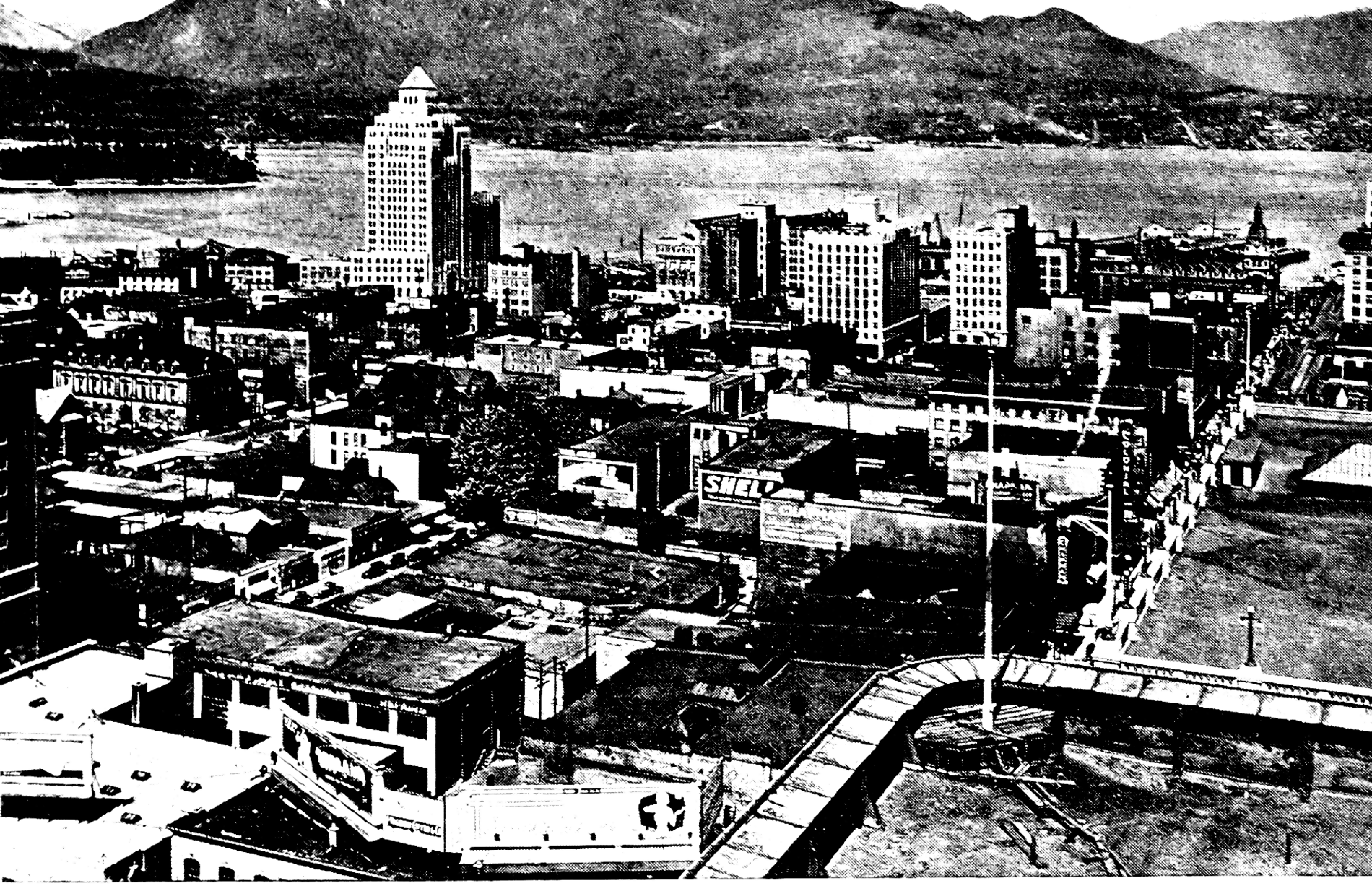


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Fig. 30.—Part of Vancouver

Now let us go back to Vancouver, much the biggest city in British Columbia. Fig. 30 shows only a small part of it. For a long distance to the right and also behind us the houses are built on the almost level floor of the valley between Burrard Inlet on the north (seen in the picture) and the mouth of the Fraser R. on the south. On the other side of Burrard Inlet, at the foot of the mountains, we can see North Vancouver.

The harbour is never frozen over as are the harbours in the east of Canada: the west of British Columbia is much warmer in winter than the east coast of Canada. At all times of the year ships enter and leave the docks that line its shores to take people and goods to the countries we noticed in Book I, to China, Japan and other parts of Asia.

British Columbia is a very different kind of land from that of the Eskimo or even from Newfoundland.

WORK TO BE DONE

1. Where in North America is the country (*a*) flat, (*b*) hilly, (*c*) mountainous ?

2. Name three ways in which water wears away the earth to form valleys and leave mountains.

3. How long does it take to cross Canada by train from Nova Scotia to British Columbia ?

4. What are snow sheds ? Where are they used ? When ?

5. Is the west of Canada colder or warmer in winter than the east ? How do you know ?

6. Name four things that come from British Columbia.

7. Write down two adjectives that describe the shape of the trees that grow on the Rocky Mountains ?

8. At what time of the year do salmon go up the Fraser R. ?

9. At what time of the year are salmon caught at the mouths of the rivers in British Columbia ?

10. Write down the following names one below the other. Opposite each give the name of one place in North America from which it comes : wheat, cod, fruit, copper, cattle, paper pulp, salmon, fox furs and timber.

11. Write three sentences about the differences between Baffin Land and British Columbia.

12. Write three sentences about the differences between Newfoundland and British Columbia.

13. Draw a map of Western Canada and colour all the land over 3000 feet. Name the Rocky Mountains, the Selkirks and the Coast range. Draw a line to show how far 500 miles is.

CHAPTER VI

CORN

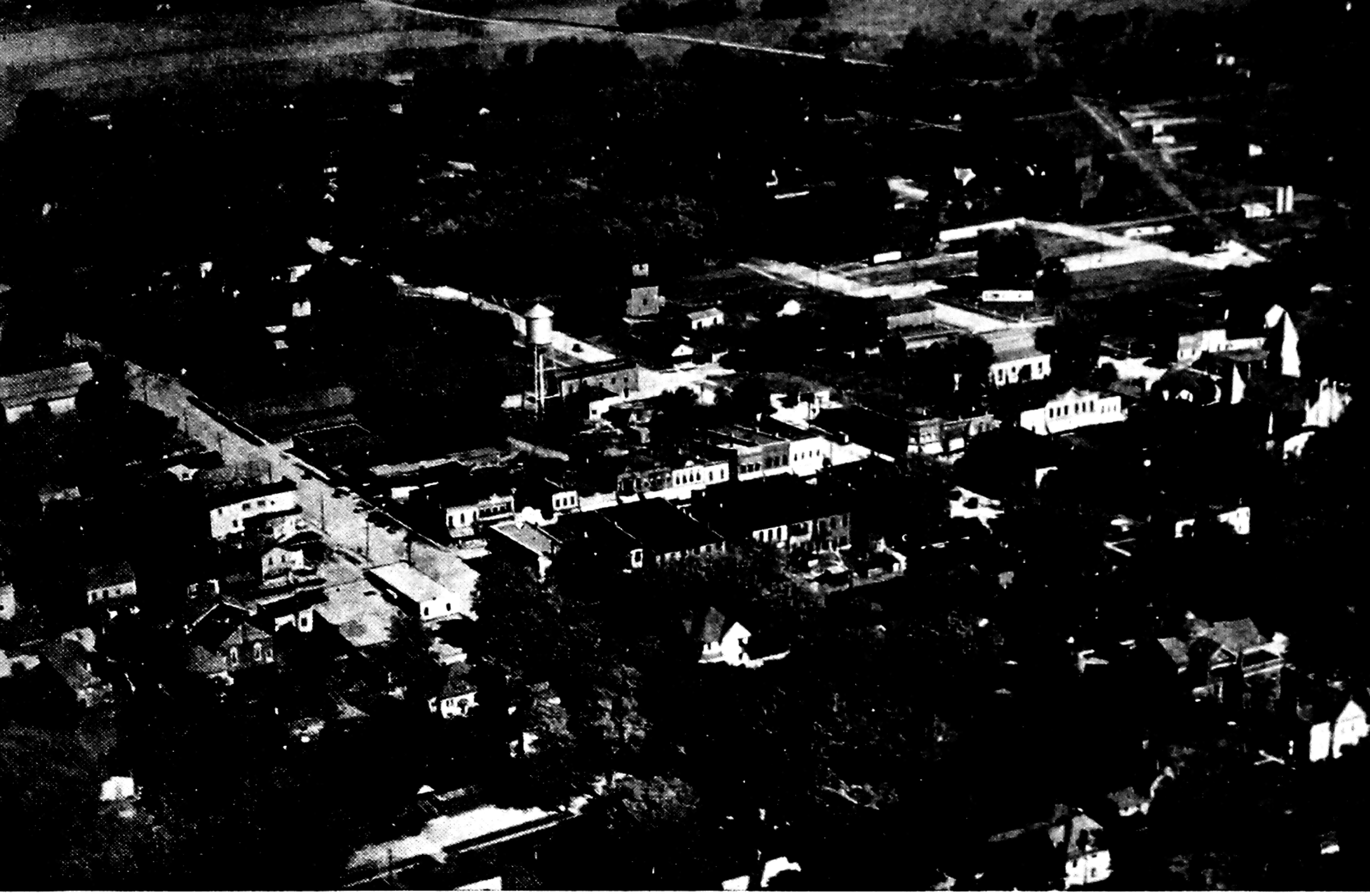
On a map of the United States find the following as you come to them :—Illinois, Lake Michigan, Mississippi R., Ohio R., Chicago, Missouri R., Ohio, Indiana, Illinois, Iowa, South Dakota, Nebraska and Kansas.

We are now going to the United States to visit a farm in the State of Illinois. This State lies to the south-west of Lake Michigan. It has the Mississippi R. on the west and the Ohio R. on the south. The farm is about 35 miles south-east of the town of Peoria, about half way between Chicago and the point where the Missouri R. joins the Mississippi. R.

We arrive by train at Peoria, about 120 miles south-west of Chicago, in early July. We drive, by another car, of course, to the farm. If we wished we could go very fast. In the first place the land is very flat so the road is very level. Indeed, the land is so flat that, look where we will, we shall see nothing high enough to form a real hill.

In the second place the road has no curves in it. When the first settlers went to live in this district the government had to divide it up for them. As there were no hills to bother about, and the land was everywhere very much the same, they divided it into farms by a number of lines drawn at right angles to each other like the lines on a chess-board. Hence all the roads run either due north and south or due east and west, as they do in the prairies of Canada.

Also, this road is broad and has a fine, hard, smooth surface of concrete. In the rich, deep, fertile soil there are practically



[*By courtesy of John Kerr Rose*

Fig. 31.—Delavan, Illinois

no stones and the only way to make a good road, and keep it good, is to make it of solid concrete.

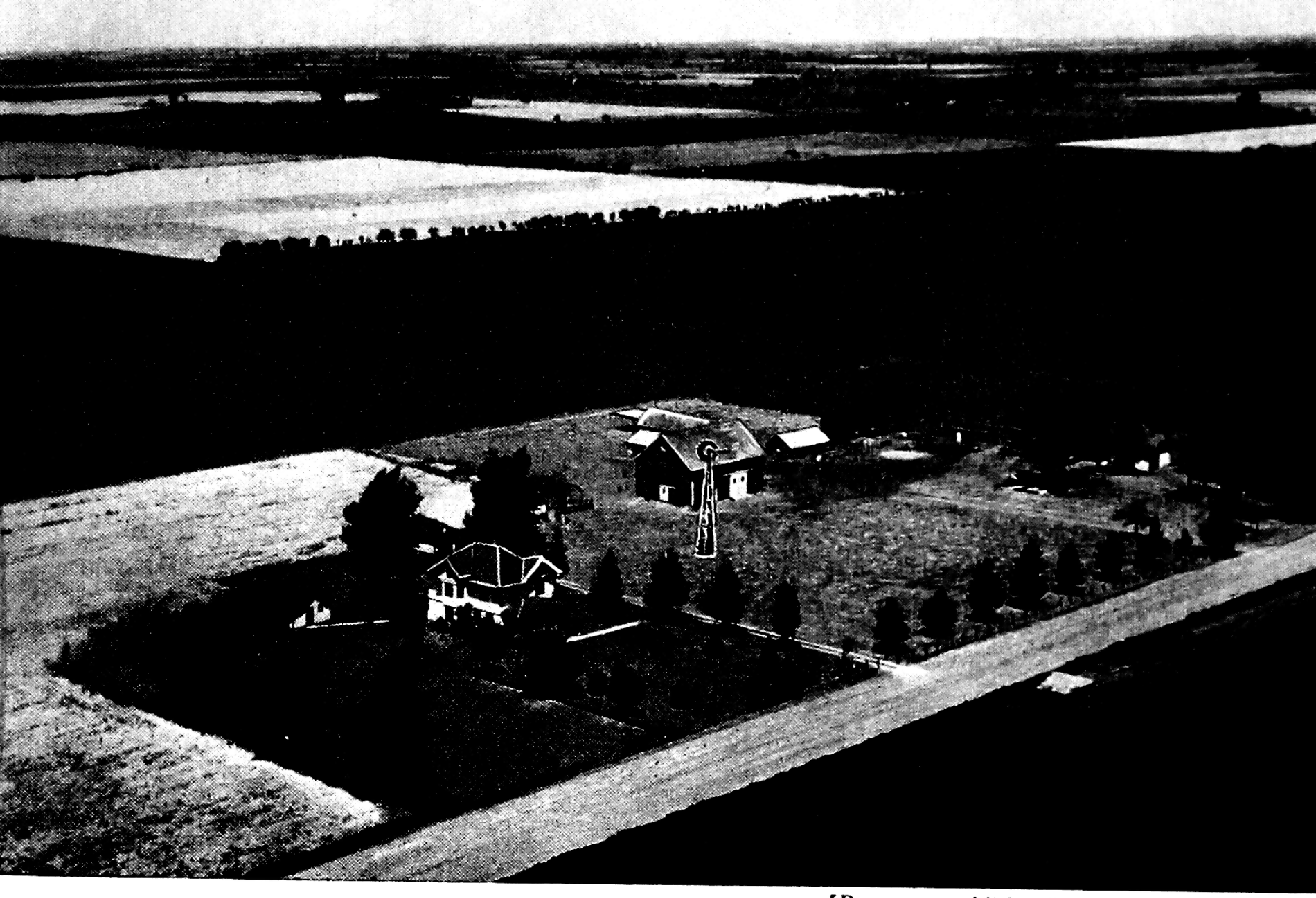
As we fly along we notice how few trees there are. Most of those we do see have been planted by the farmers. The maple trees give maple syrup for sugar, the apple, pear and peach trees give fruit and others give firewood. By the sides of the road are deep ditches that drain the fields: the fields are so flat that the water cannot run away down slopes. Here and there one may see big pumps, worked by electricity, that raise water from the ditches and allow it to flow back to the river.

After about 30 miles we arrive at Delavan, a small town of about 1,300 inhabitants. It is seen in Fig. 31. In the open country, in the distance, are a few farms with trees planted round each of them, chiefly in order to shield them from the cold winds of winter. The main street runs across the middle of the picture from west to east. Except in this street, where the shops are, the houses are mostly of wood.

Though Delavan is really quite a small place it has several fairly large shops for the sale of grocery, clothes and hardware, a good restaurant and a " drug store " where are sold not only medicines, but books and papers. It is to this little town that the farmer comes to buy petrol for his car and for the engines which he uses on his farm, and to bank his money when he sells his crops. The houses, with no fences to shut off one person's garden from the next or from the road, are well-kept and the roads are shady with big trees. Higher than the houses are the spire of the church at the east end of the main street and a big water-tank, almost in the middle of the picture, supported on a steel frame-work, from which water flows to the taps in the houses. Behind it a railway runs parallel to the street, with the " depot," or station, to the north-east of the church.

From this town we go about five miles due east. The road on which we travel is a " dirt road." This is not a good road ; the surface is not paved and oil is spread over the loose earth to keep down the dust. It has many ruts and holes and if the day be wet will be deep in mud and the car wheels will not grip. That is why we put chains on the wheels. In this country sudden thunder-storms are common in summer and if we were caught in one, and had no chains on the wheels, we might have to leave the car stuck fast in the mud till the road dried.

Presently we arrive at the farm, called Widow Hickey's farm, though her son now farms the place himself. Its white dwelling-house, red barn and outbuildings are seen in Fig. 32. There, too, you may see the flat country stretching into the distance towards Peoria, 35 miles away. The house, sheltered by trees from the sun in summer and the winds in winter, stands at the side of a " dirt " road that runs north and south. It is built of brick : the barns and the rest of the outbuildings



[*By courtesy of John Kerr Rose*

Fig. 32.—Widow Hickey's Farm near Delavan, Illinois

are of wood. It is lit by electricity. Electricity is used in many ways to save as much hard work as possible.

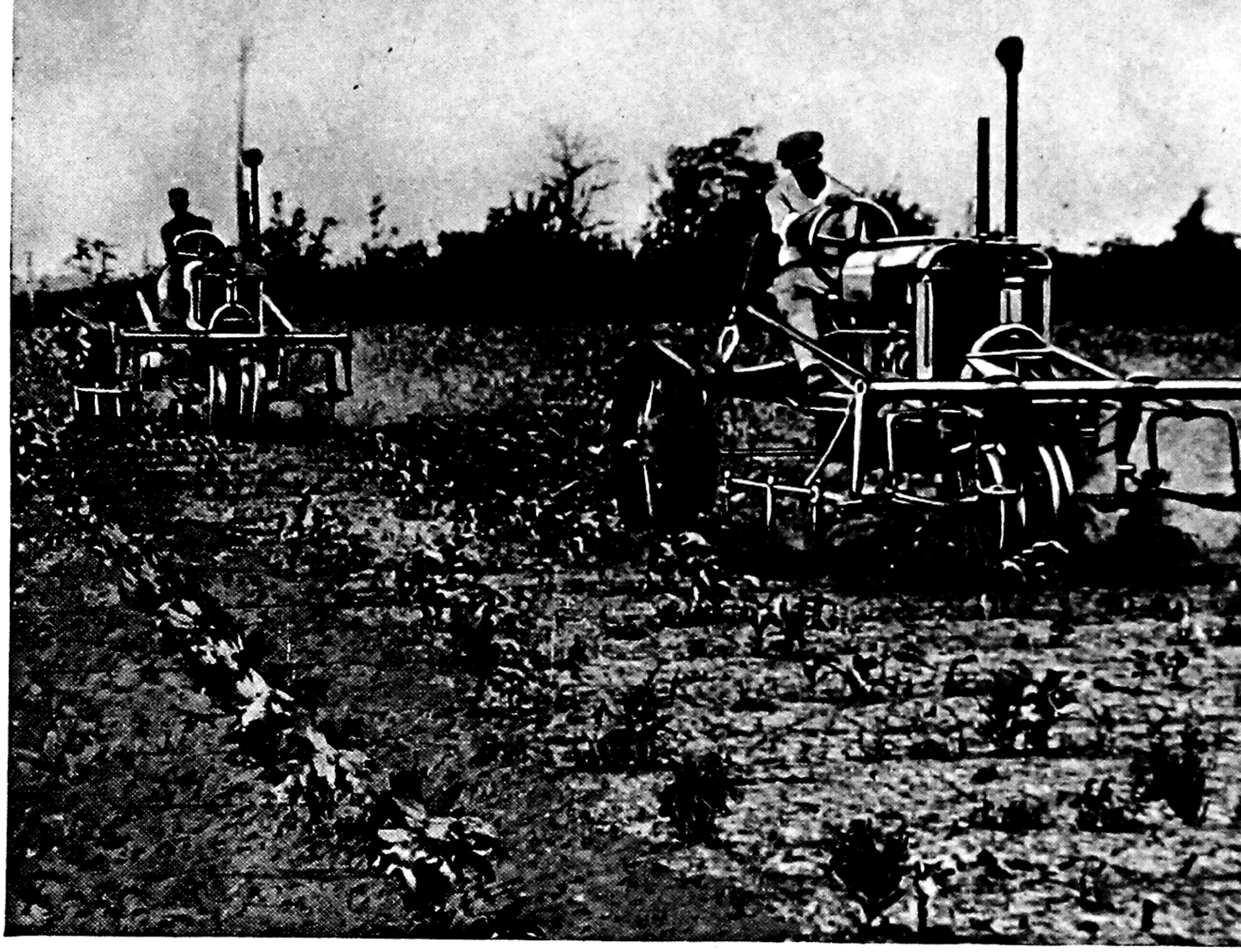
The large building in the centre is a barn for hay. Like all the barns in the United States it is painted a dark crimson brown. The buildings beyond the barn for pigs, or " hogs," as they are called in the United States, are known as hog pens. They look a little like huge dog kennels. There is also another shelter, without sides, which gives shade in summer. To the right, among the trees, are the chicken runs and the machine sheds. Behind the house, at the end of the drive from the main road, is the garage. To the right of the house is the tall steel windmill that pumps water for the animals and for drinking, cooking and washing in the home. Just to the left is the tower for water storage. Behind the house and beside the garage is the vegetable garden. The patch on the south-east side, next the main road, used to be the vegetable garden but is now a lawn.

The fields are separated from each other, partly by wire fences and partly by hedges. Some of the hedges, like those along the side of the road, are trimmed twice a year; others, like that in the middle of the picture, have been allowed to grow more straggly. These hedges are formed of a kind of small, rather thorny tree that grows mostly in the centre of the United States. Here it is cold but not too cold in winter and not too dry in summer for trees. The thorniness of these trees, like that of the English hawthorn, makes them very suitable for hedges. Some of the trees that are allowed to grow untrimmed provide wood for posts for the wire fences.

The farm itself, like most of the farms round about it is not so very big, nothing like as big as some of the wheat farms of the Canadian prairie. Like the prairie farms it is cut up into fields, whose edges run north and south or east and west. Hence the fields have right-angled corners and are not of all sorts of shapes as they are in Britain. Those that look white in the picture are fields of oats, yellow and just ready for cutting: the big field on the left, beyond the straggly hedge, is already partly cut. Some of the lightish fields have wheat or grass in them. Most of the fields, however, are dark in colour. These are fields of maize or Indian corn. The farmer here speaks of it as "corn." This is the corn country.

In the early spring the land, as for wheat, is ploughed, after which it is harrowed to break up the clods and produce a fine seed bed. The corn is sown, about the beginning of May, by means of a machine called a *planter*. The seeds are placed in rows which are about four feet apart and there are at least a couple of feet between the plants. Plenty of room is needed, for the full-grown corn is very tall. The seeds are covered with soil to a depth of three or four inches.

If the weather is good, that is, hot with bright sunshine

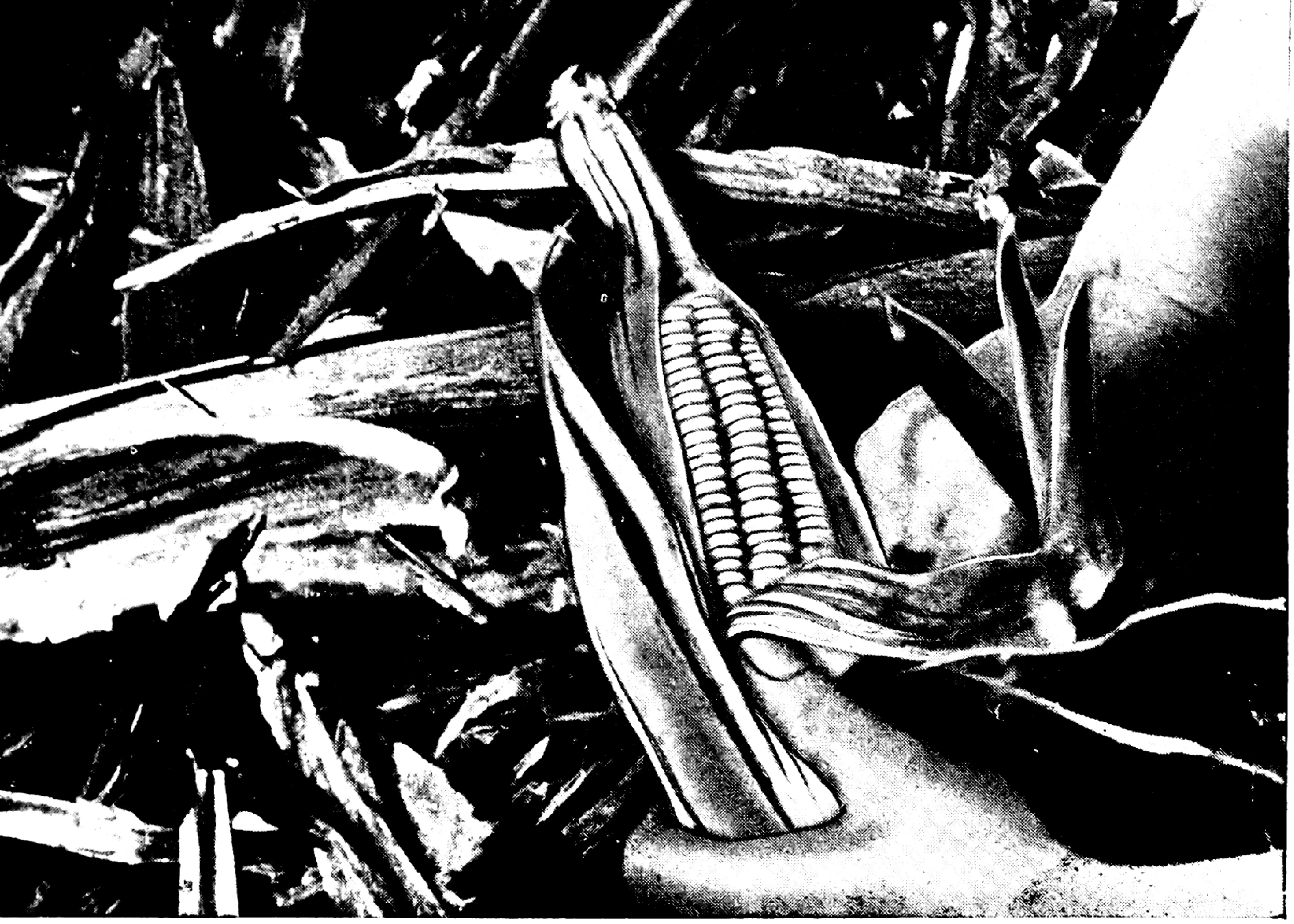


[By courtesy of Eastman Kodak Co.

Fig. 33.—Cultivating a Corn Field

and occasional showers, the young corn appears about eight days after the seed has been sown. In Fig. 33 the young plants can be seen just coming above the ground. Some parts of the ground look darker than the rest. These have been cultivated or scratched up by the machines that you see being drawn by tractors. This kind of thing has to be done three times a year to kill weeds and to loosen the surface after it has been hardened by rain beating on it and the sun drying it up. By July, the time of our visit to the farm, the plants have grown so tall that, as can be seen in Fig. 32, they would be broken by the cultivator. The machine can no longer be used; but by this time the plant's own leaves shade the ground and, by shutting out the light, both kill the weeds round the roots and prevent the soil becoming too dry.

The corn grows very rapidly until the middle of August when the stalks may be as much as nine to twelve feet high. Fig. 34 shows what the corn then looks like. The cob, on



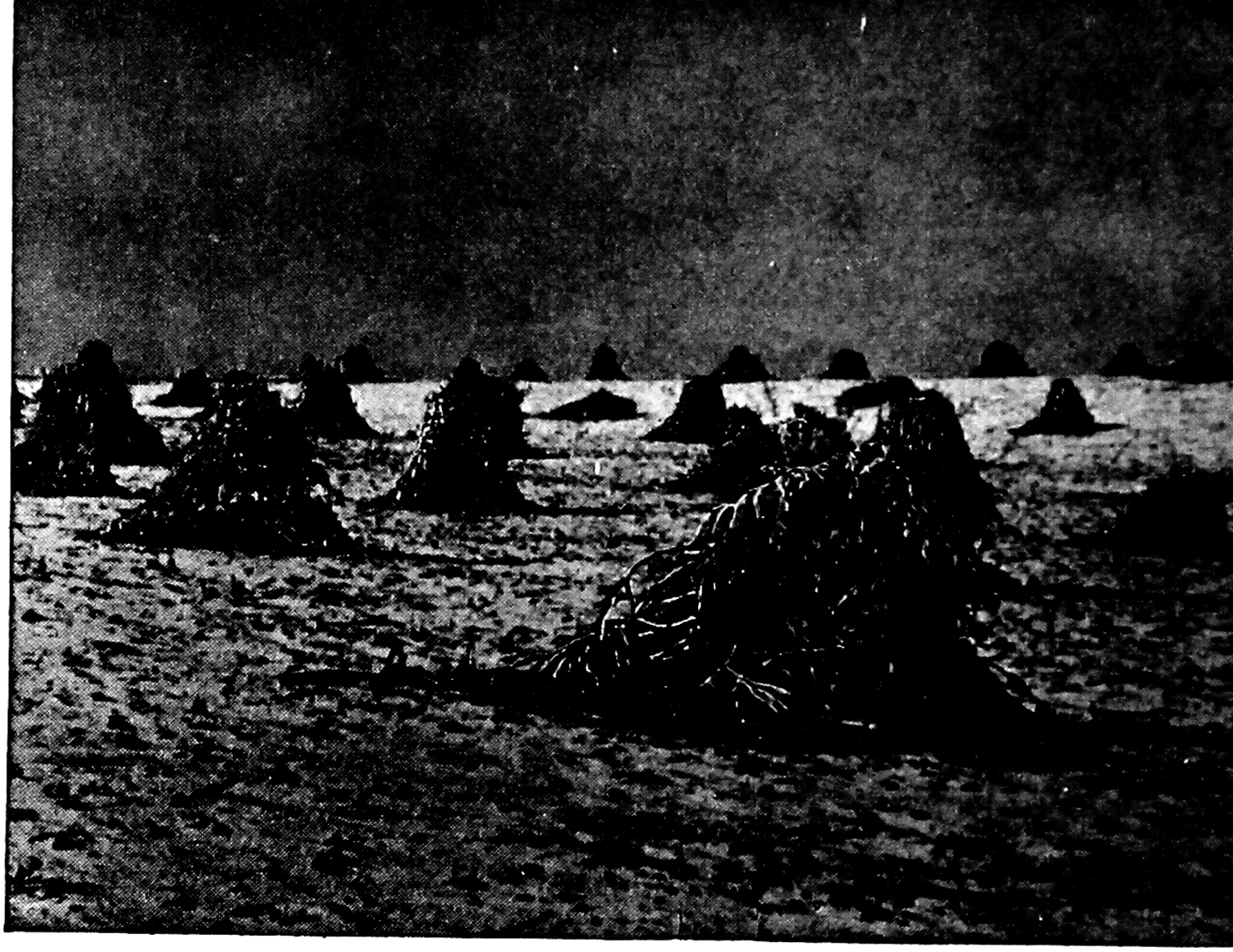
[By courtesy of Eastman Kodak Co.

Fig. 34.—A Corn Cob

which are the seeds, does not grow at the top of the stalk, as we might expect, but about half way down, in between one of the long leaves and the stalk. The cob is packed with regular rows of kernels which at this time are still soft and milky.

Corn is harvested at three different times. Some of it is cut, while green, in September. The stalks are then filled with a sugary food that is particularly good for cattle and pigs. The whole plant, stalk, husk, cob and kernels, is chopped up small and pressed down tightly into a tall round tower called a *silo* where, if necessary, it will keep fit for food for a year or two. That is not done on this farm and there is no silo: there are not enough cattle to make it worth while.

If the grain is wanted the corn is allowed to grow until the autumn, or even the winter, by which time the kernels have become harder. If it is cut by a reaper in the autumn it is tied in bundles (see Fig. 35) and left in stooks, like wheat, to



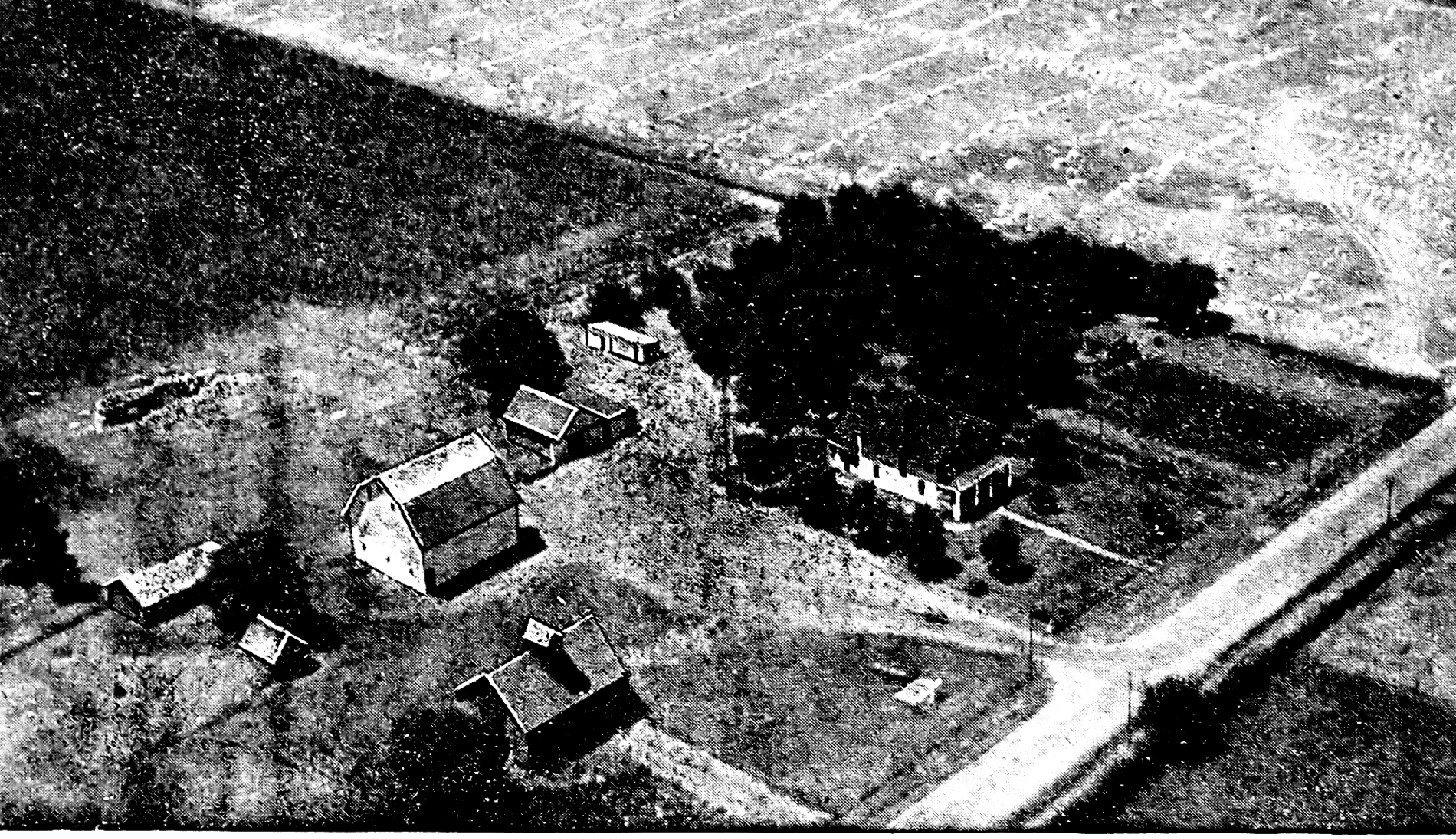
(By courtesy of Eastman Kodak Co.

Fig. 35.—Corn Stooks in Early Winter

dry. It remains in the fields, however, till much later in the year than wheat.

But by far the greater part of the corn is harvested, quite unlike wheat, in winter. By this time, the leaves have all withered and the stalks stand up bare and desolate looking. Then the farmer goes into the field with a wagon drawn by two horses. As he moves down the field he picks the cobs from the nearest rows on either hand and throws them into the wagon, after which they are taken to the store or " corn-crib." In this farm, unfortunately, the corn crib was burned down a little while before the photograph was taken and the corn had to be stored in another building for a short time until the kernels were stripped and sold.

We have now looked at one farm, but there are hundreds and hundreds of farms like this one all in a belt of country south of Chicago in the States of Ohio, Indiana, Illinois, Iowa, S. Dakota, Nebraska and Kansas. Because so much corn is grown in this belt it is called the " corn belt."



[*By courtesy of John Kerr Rose*

Fig. 36.—Another Farm near Delavan, Illinois

The farms, naturally, are not all exactly the same. Look at Fig. 36. Here there is a corn crib, the nearest building. Notice the barn; it has a roof of a different shape from that in Fig. 32 and one that is really more common. But in all the farms of the corn belt much the same kind of work is done and on all of them we should find hedges, fences, and fields of oats and corn. In some parts of the corn belt, however, there are more cattle and more hay is grown; in others far more corn is fed to pigs.

The one thing that is sure to be grown everywhere is corn; there is so much of it that if it were loaded on to wagons, each holding fifty bushels and drawn by two horses, the train of wagons would reach nine times round the Equator, and if the wagons were to trot past, three abreast, at the rate of eight miles an hour, the last of one year's procession would not have passed before the next year's procession arrived.

The farmer in the corn belt has always plenty to do. In the early spring he ploughs and harrows. In April he plants oats. In May he plants corn. In June he cuts hay and " cultivates " corn. In July he cuts wheat and oats. In August he ploughs the fields that are to be sown with wheat in the autumn. In the autumn and winter he harvests corn and husks it and plants wheat. During the winter also, the corn has to be taken to market to be sold, manure has to be put on the fields; fences, harness and implements have to be mended and pigs fed and fattened for sale later on. All the year round one or two cows have to be milked, wood cut, chickens looked after, and barns and yards kept clean and tidy. It is a busy life.

WORK TO BE DONE

1. What kind of soil is found in the corn belt ?
2. Name two places in North America where the land is flat ?
3. What kinds of roads are there in the corn belt ? Why ?
4. Name two results of the flatness of the land.
5. At what time of the year are oats harvested in the corn belt ?
6. At what time of the year is the corn harvested ?
7. Write two sentences about the weather in the corn belt (*a*) in summer (*b*) in winter.
8. In what direction does the road in Fig. 36 run ?
9. What do you notice about the shadows of the trees in Fig. 32 ?
10. What do you notice about the shadows of the roofs in Fig. 32 ?
11. At what time of day was Fig. 32 taken ?
12. Which is the corn field in Fig. 36 ? How do you know ?
13. At what time of the year was Fig. 36 taken ? How do you know ?

CHAPTER VII

COTTON

On a map of the Southern United States find the following as you come to them: the State of Alabama, the river Mississippi, the Gulf of Mexico, the States of North and South Carolina. and Texas.

We are now going to visit a cotton plantation in the State of Alabama. This State is in the south of North America. It lies east of the Mississippi with one corner, the south-west, on the Gulf of Mexico. The nearest town, or city as they call it in the United States, to the plantation is Athens, with a population of 4500 people. Athens is close to the centre of the northern border of the State. We arrive in the middle of November and at once take another train to Belle Mina, a little village of about only 150 people, fourteen miles to the south-east.

Fig. 37 shows us the railway station at Belle Mina. As is usual in America, the platform is low. Behind the platform are a few of the houses of the village; one building is of brick but all the rest are of wood and have trees in front to give

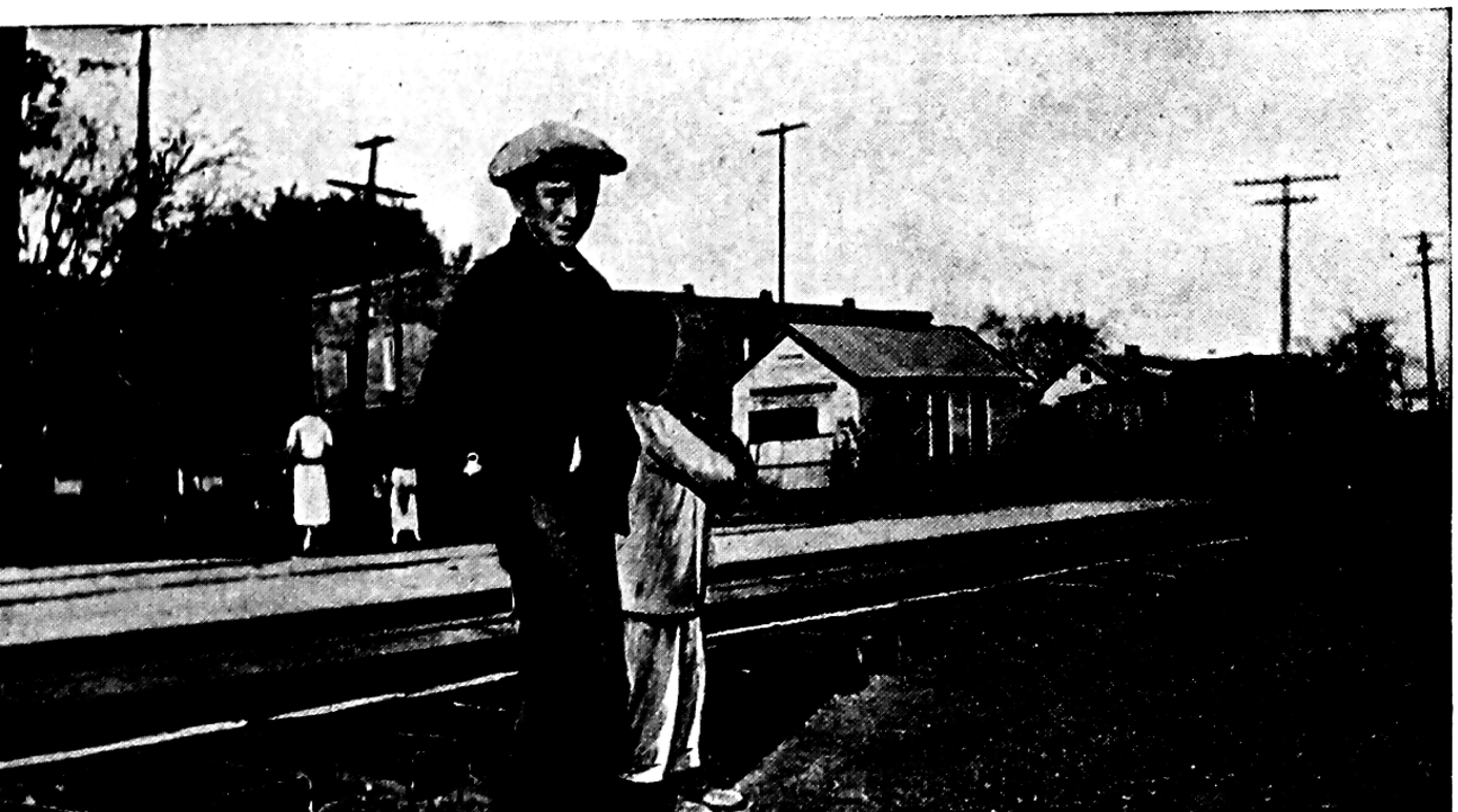


Fig. 37.—The Railway Station at Belle Mina, Alabama

[By courtesy of Beth Torrey

shade in the hot summer. Notice that though it is now November all the leaves have not yet fallen. At the farther end of the platform is a level crossing: the land is very flat and there are few bridges. The level crossing continues to the right across to the street shown in Fig. 38.

In Fig. 38, too, is seen a shop or store. It is built of wood and has a corrugated-iron roof. It does not look very attractive, but it is higher than most of the houses, for it has two stories while they usually have only one. This store has three parts: one is the drug store or chemist's shop, another is the post office and the third is the general store for the village. Next to it, though you cannot see it, is another shop where hardware and tools for farming are sold.

In order to give shade, the upper story sticks out to form a kind of roof over the pavement. Round the first floor goes a veranda, partly shut in and covered with fine wire netting to keep out mosquitoes. Three negroes, two men and a woman, are standing under the veranda. If we had come on a Saturday afternoon there would have been many people in the streets, as that is the time when both negroes and white people do their shopping. Though it is November, the people in the picture are not heavily clad.

We now take a car and drive three miles across very flat country to the Anderson plantation. The road is a fairly good one of gravel, but it is sometimes rather dusty in dry summer weather. We notice that there are quite a number

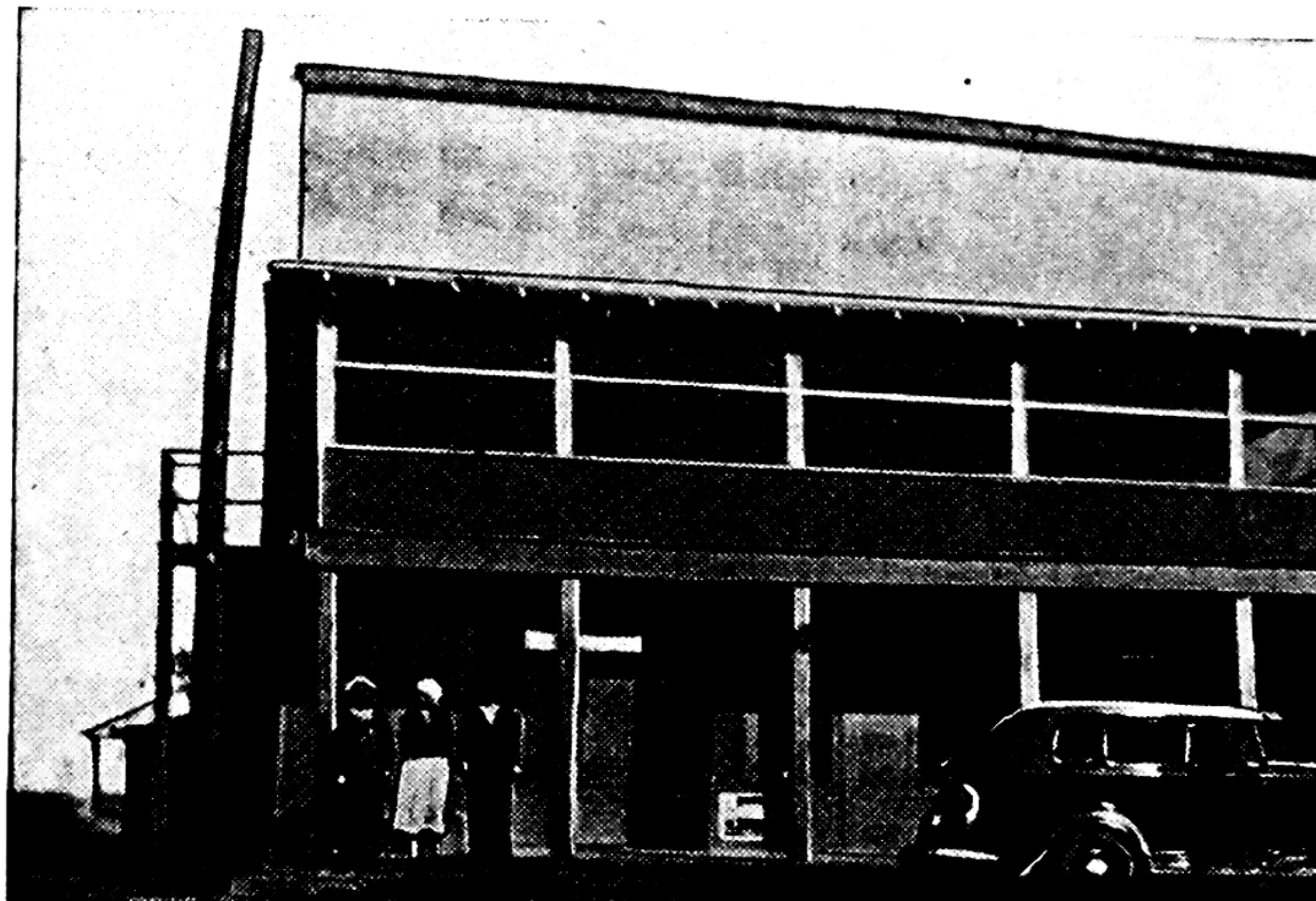


Fig. 38.—The Store at Belle Mina, Alabama

[By courtesy of Beth Torrey

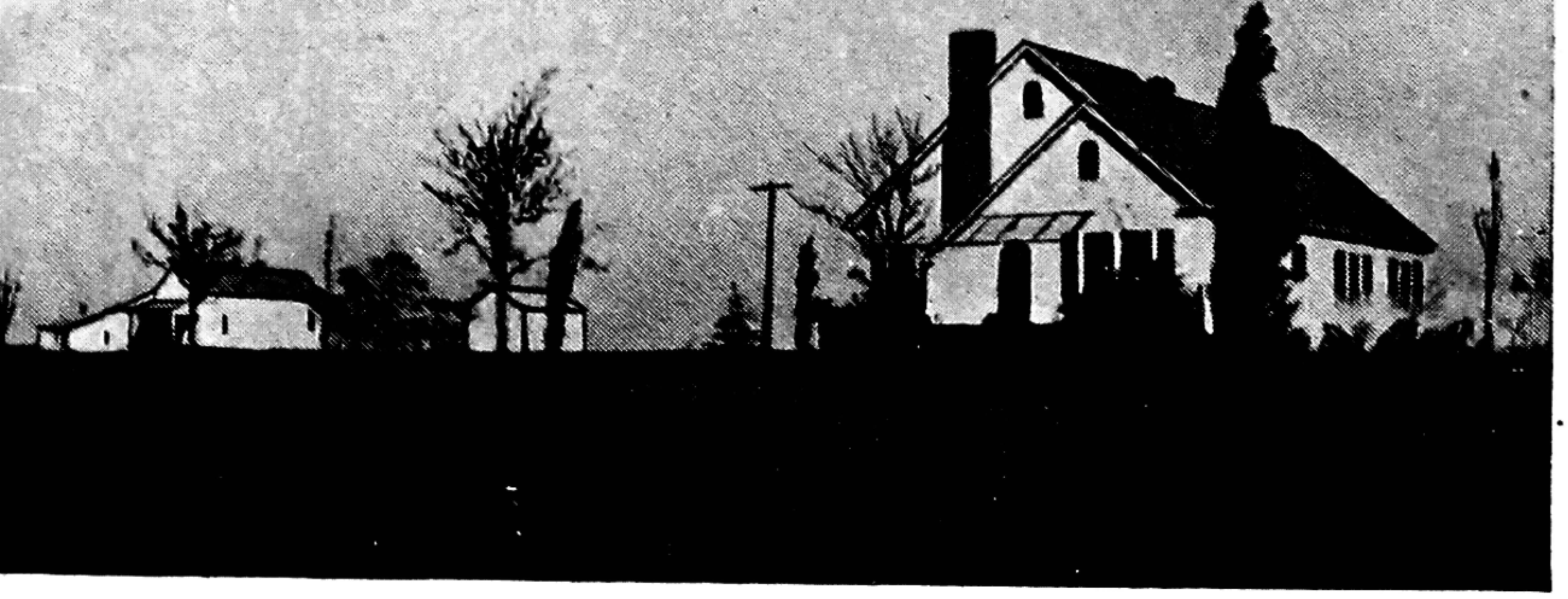


Fig. 39.—The "big house" on the Anderson Plantation near Belle Mina, Alabama

[*By courtesy of Beth Torrey*

of woodlands as well as fields along the way. The plantation is about 500 acres, or a little less than a square mile in area: about 450 acres are planted, mostly with cotton, though a little hay is grown. Much of the other 50 acres is taken up with woods. At one time most of this country was covered with forest but a great deal has been cut down.

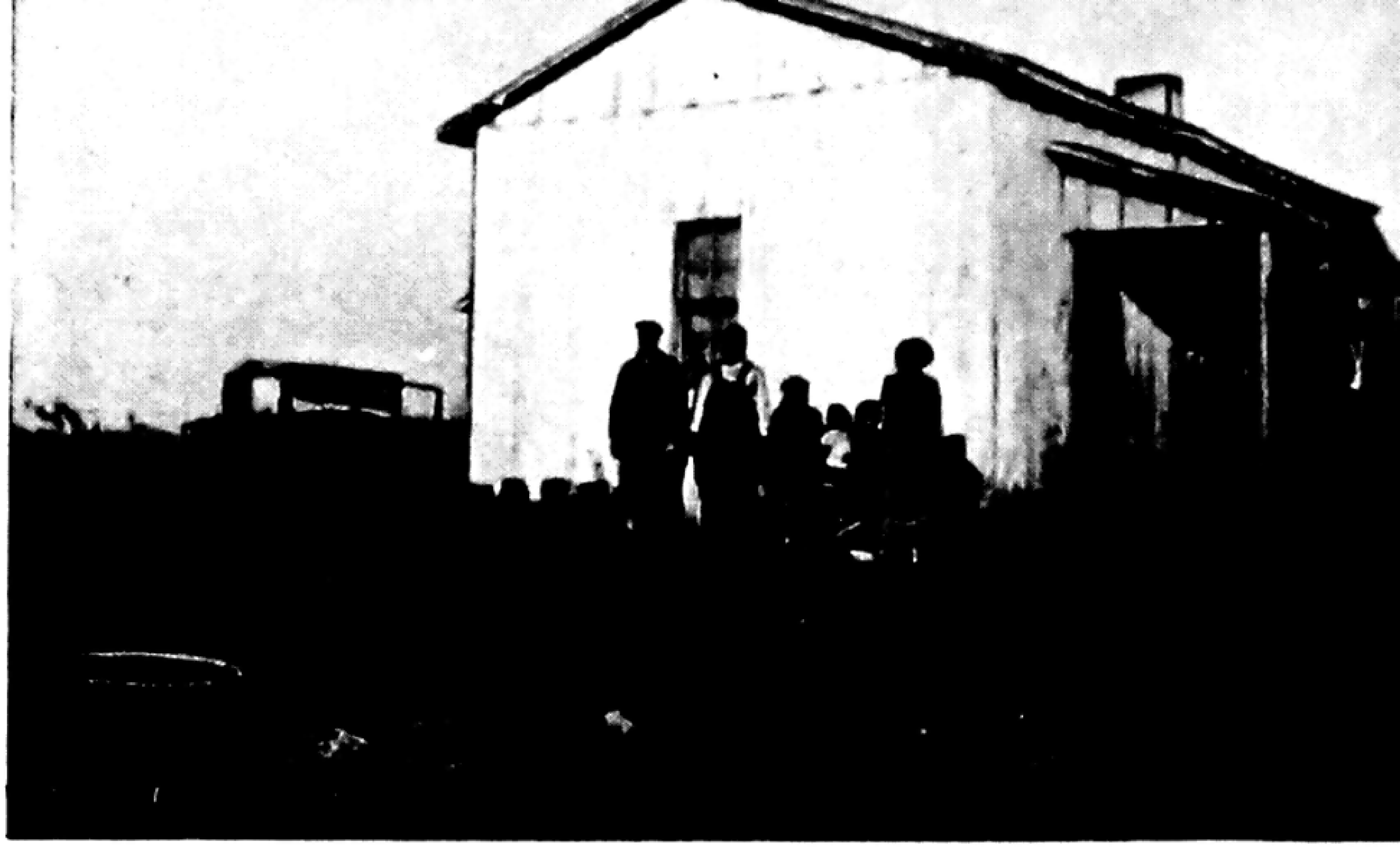
We drive up to the "big house," as the house of the planter is called whether it is really a big house or not (see Fig. 39). Like all the other houses it is of wood. In front is a broad porch; behind is a long garden in which grow fruit trees, and vegetables such as beans, corn, tomatoes, peppers, cabbages, cucumbers, peas, egg-plants. At this time the leaves are falling and most of the vegetables are over.

Indoors there is a large living-room with rugs upon its polished floor. There are three doors, one to the front entrance porch, one into the hall, and one large folding door to the dining-room. There is an electric stove which is mostly for ornament. It may be used on slightly chilly days in late autumn and spring, but the real heating is done by a furnace which heats water that circulates in pipes all over the house. There is also an electric refrigerator to keep food fresh in the hot weather.

To the left of the big house in Fig. 39 is the plantation store, which is owned by the planter and is open on Friday afternoons and Sundays. Here the negro workers on the plantation may buy salt pork, meat, lard, flour, baking powder, potatoes, beans, canned fish and fruit, sweets (which they call candy), tobacco and other simple things. If they want to buy stockings, matches, cotton cloth, writing paper, pencils, shoe

Fig. 40.—Negro Cabin on the Anderson Plantation

[By courtesy of Beth Torrey



laces, ropes and odds and ends of that kind they have to go to Belle Mina, and if they want anything more important they must go to Athens.

All round the " big house," at different distances, are dotted the fifteen houses of the negro workers who have lived in them for a long time. Fig 40. shows us one of them. This house is immediately to the left of the view in Fig. 39 with only the lawn between it and the " big house." It is built of wood and has a corrugated-iron roof. Like the other fourteen negro houses, or cabins, on this plantation it has been newly whitewashed so that it has a more pleasant appearance than is usually the case with negro homes. Along part of one side, raised a foot or two from the ground, is the veranda.

The cabin has two rooms and a shed room at the back. In it live the nine people you can count in the picture. It contains very little furniture—a bed, table and chairs, a cooking-stove and some pots and pans, especially a frying pan. The floor is of bare wood; the curtains over the window are made of flour sacks. But the negroes of the Southern United States, like those of the West Indies, are fond of colour and the inside of the cabin is often quite bright. In this cabin the walls are covered with blue paper, though that is unusual. On the other hand there are no pictures and that is also unusual. As a rule, on the walls, there are brightly coloured pictures cut from magazines. From the roof hang red peppers, yellow gourds and green grasses. On the mantelpiece are gilded vases and ornaments. A quilt of many colours covers the bed; a coloured curtain hides the clothes that hang on the wall. In the summer wild flowers or perhaps a few from the garden, or yard as it is called, are stuck about in old bottles or vinegar jars.

The negroes eat chicken and pork, fresh when they can get it and salt when they cannot, beans and hot and cold bannocks made with corn meal. Most of the food is fried. Meals are usually eaten standing or else, on the lap, sitting before the fire.

Behind the cabin is a patch in which are grown corn and the same kinds of vegetables as in the garden of the " big house." Some of these are preserved in glass jars for use in winter. Beyond the cabin is a sty for pigs. Pigs, and chickens that run about anywhere, eat up scraps and help to provide food. In the foreground of Fig. 40 is a large pot. Water for washing is heated in this over a fire lit under it.

All round are the cotton fields, work in which keeps the negroes busy all the year. In winter the land is deeply ploughed by means of ploughs drawn by mules. It is then harrowed and left to the sun, the wind and the rain, to be crumbled into fine soil that is fit to receive seeds. Early in March the fields are again ploughed. Fertilizer is placed in the furrows after which the ploughman goes to work once more, turns the ridges into the furrows and so covers up the fertilizer.

As soon as the weather is warm enough, about early April, the seeds are sown in rows three feet apart. After about seven days the young plants begin to spring up and the ground is cultivated, or scratched up between the rows, by a harrow. This loosens the ground and allows the weeds to die. By means of a hoe the weeds near the roots are chopped out and all but a few of the best cotton plants removed. As both plants and weeds grow quickly in the warm, wet weather the ground must be cultivated at least twice.

At first there are always too many plants in the rows and they have to be thinned out until there are from twenty to thirty inches between each plant.

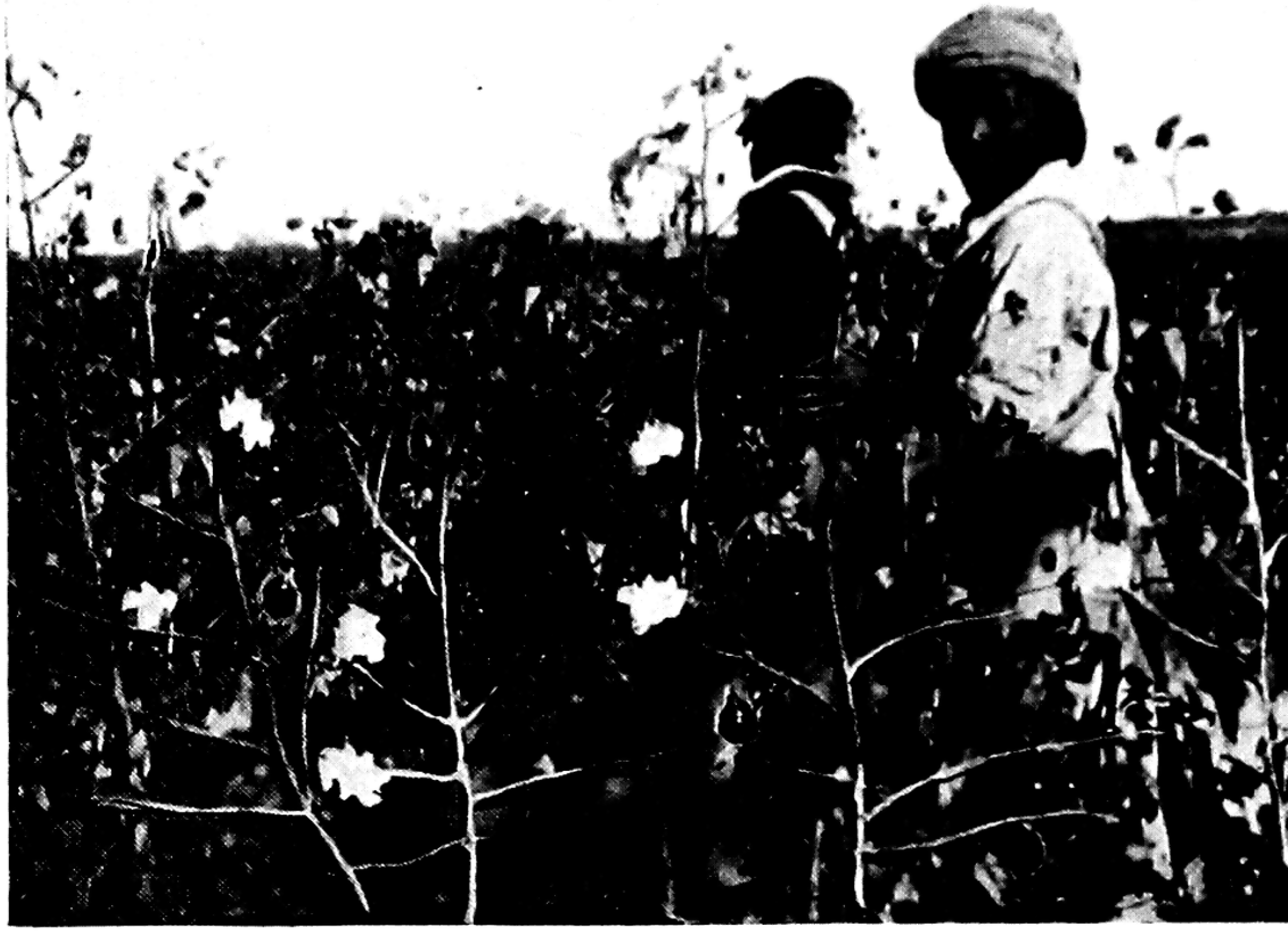


Fig. 41.—Picking Cotton on the Anderson Plantation

The bushes look ragged because negroes have been picking cotton from them for some months

[*By courtesy of Beth Torrey*

When the cotton plant is fully grown it is a small shrub from two to three feet in height, as you see in Fig. 41. It throws out a large number of flower stalks at the ends of which are flower buds. When these buds open, the white petals of the young flowers are seen. On the second day the petals turn pink. On the third or fourth day they drop off and the pod or *boll* is seen. This looks like a nut, about as big as a hazel nut. When the cotton boll is ripe, it bursts open and shows four or five cells, each filled with seeds around which is a mass of beautiful, silky-white stuff something like the fluff of a dandelion. This is the cotton.

From July 25th for a whole month no work is done. The cotton fields are left alone and the negroes wander about to take part in meetings for singing.

Then comes the time of harvest which lasts for several months because the cotton plant goes on flowering and the bolls ripen one after the other for some time. Men have tried to make machines to gather the bolls, but the trouble is that no machine is able to tell which bolls are ripe and which are not; so the bolls have to be picked by hand.

The pickers are negroes who live on the estate. The actual work of picking is light but it needs skill, and women and children, because they have quick, nimble fingers, are usually the best pickers. Two of them on this plantation are seen in the picture. Even though it is November the harvest is not yet over, but the bushes look rather ragged because they have had so many bolls pulled from them.

The hardest parts of the work are stooping down to the lowest branches and carrying the sack into which the cotton is placed as soon as it is picked : the sack may hold as much as from 25 to 75 pounds and drags as a dead weight. When the sack is full it is emptied into a big basket, which, in its turn, is filled and then taken to the cotton house to be weighed. Few pickers can pick more than 200 lbs. in a day ; most of them collect from 150 to 175 lbs. a day.

Work on the plantation goes on all the year round—ploughing in winter, sowing in April, weeding and hoeing during the summer, and picking the crop from the end of August to the beginning of December. But this is not all. The freshly plucked bolls contain seed as well as cotton and as only the cotton is used for making cloth the seed has to be removed. For many years the seed was removed by hand, but this was a very long business as you can imagine. Then a man invented a machine called a cotton gin (*gin* is short for *engine*), which cleaned the cotton very much more quickly.

The cotton from our plantation is sent to a gin not far away which is called " Pete's Gin " (see Fig. 42) from the name of the man who used to own it. The cotton arrives in a long four-wheeled cart, with high sides, hauled by two mules. In the picture the mules are just about to draw the cart under the porch of the little office on to a very large scale pan which weighs cart and cotton together. The cotton is then unloaded at the gin on the left and the empty cart brought back and weighed again. The difference between the weights of the cart full and empty gives the weight of the cotton.

When the cotton is separated from the seeds it is loose and fluffy. It is next pressed together into big bales which weigh about 500 lbs. each. Each bale is wrapped in strong, coarse cloth, fastened round with narrow iron bands and taken to the

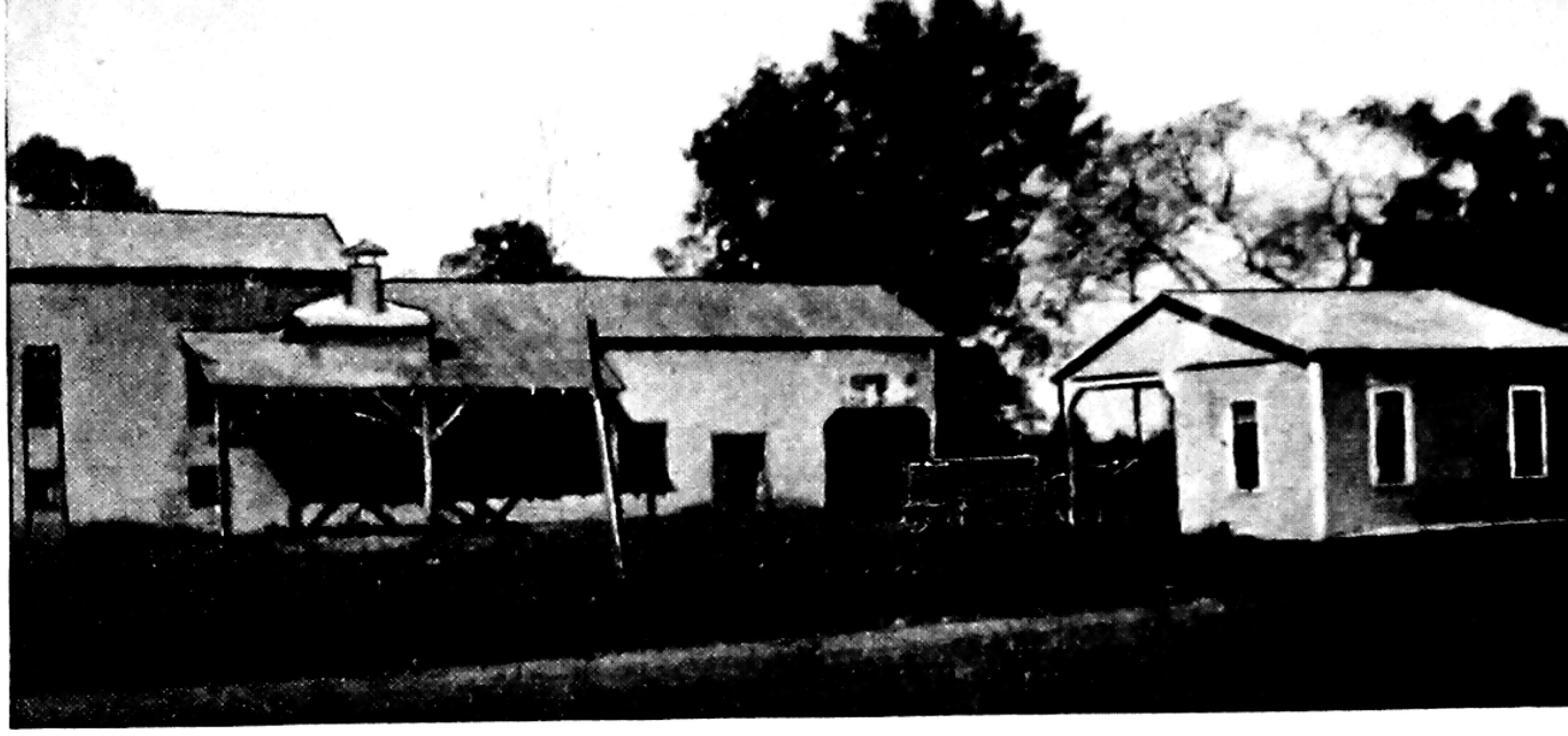


Fig. 42.—Pete's Gin near Belle Mina, Alabama

A closer view of the mules and cart is seen in the next picture

[*By courtesy of Beth Torrey*

railway where it is sent away to be made into cotton cloth. The seed which was formerly thrown away is now used for many things. Oil is pressed out of it to be used for cooking and for making soap and margarine; even the cake that is left after the oil has been squeezed out is a splendid food for cattle.

Cotton is grown all over the southern states from Carolina to Texas, but it is not always grown in quite the same way as on this plantation in northern Alabama. In some plantations in Alabama the planter rents out part of his land to a number of negroes. He provides them with tools, seed, some fertilizer and a mule with which to plough and cultivate the ground. After the cotton has been gathered he receives half of it as the price of the rent. The size of one of these small plots is about 25 acres, which is about as much as a man with one mule can manage. Such a plot is called a "one mule farm."

In Texas another difference may be seen. Here there are new large plantations where machinery is much more used.

The houses, too, in which the negroes live are not all the same. In Carolina, where some of the negroes own their farms and their houses, the houses are bigger and better than

Fig. 43.—Mules and Mule Cart at Pete's Gin

[*By courtesy of Beth Torrey*

the one we have seen at Belle Mina. But there are places where they are worse; few have paper on the walls, some have no windows at all, others have just shutters. Even near Belle Mina few of the houses of the negroes are whitewashed; they are simply of bare wooden logs.

But everywhere in the cotton belt the greater part of the work is done by negroes and there would not be much cotton without them.

WORK TO BE DONE

1. Is Northern Alabama flat, hilly or mountainous? Look at the pictures to see if you can find a hill.

2. Of what are negro houses built in the cotton belt?

3. Write three sentences about negro houses in the cotton belt.

4. Write three sentences about Belle Mina.

5. What foods are eaten by negroes?

6. What foods do negroes have to buy?

7. What other things have they to buy?

8. Find the area of your school playground: compare it with that of a "one mule farm."

9. Compare the size of the Anderson plantation with that of Mr. Rodgers' wheat farm.

10. How is it that cotton has to be picked by hand?

11. What animal is used to pull carts and ploughs?

12. Name the states between Carolina and Texas, the states of the cotton belt. Are the states in the cotton belt warmer or cooler than those where maize is chiefly grown? How do you know?

13. Write three sentences about the climate of the cotton belt.

14. Find on the map the names of the ports from which you think that cotton will be exported.

CHAPTER VIII

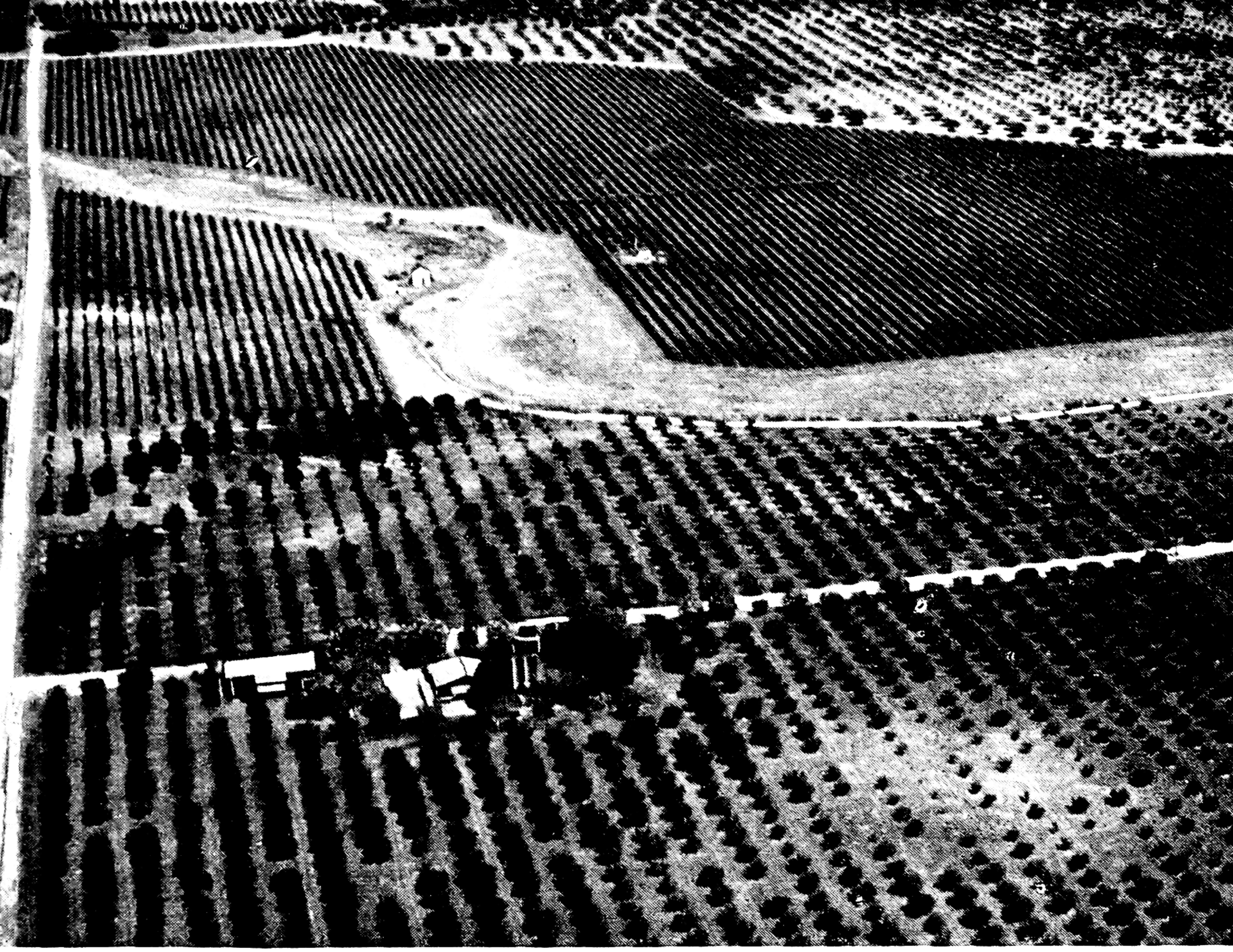
FRUIT AND FILMS

On a map of North America find the following places as you come to them: United States, San Francisco, Cordillera, Panama Canal, Sierra Nevada, the Great Valley, California, Coast Range, Los Angeles.

WE are now going to visit two places in the south-west of the United States. The first is near San Francisco. There are several ways of reaching that city. We could cross the continent from the Atlantic coast, travelling first over lowland and then over the great stretch of highland, the Cordillera, which is here wider even than in Canada. We might make this journey by train in 3½ days or by aeroplane in 18 hours. We could also go to San Francisco by boat. By boat we have a choice of two routes: (1) a long one right round South America; (2) a much shorter one through the Panama Canal. Beyond the Panama Canal we should sail north along the coast and enter the magnificent harbour of San Francisco by the Golden Gate, a strait 5 miles long but only 1 mile wide.

From San Francisco we go by rail about 160 miles south-eastwards to Fresno. The line runs over flat ground but away to the east rise snow-clad mountains, the Sierra Nevada. To the west are other mountains but as they are not so high and are farther away we shall probably not see them.

All around us are orchards, here called fruit ranches. Some of them grow peaches, others apricots, others grapes or lemons. Look at the one shown in Fig 44. In the left-hand corner, close to the main road, are the house and out-buildings. The trees near the house have been planted for shade from the



[*By courtesy of Fresno Chamber of Commerce*

Fig. 44.—A Fruit Ranch near Fresno

sun. Those in rows in the foreground and in the background are oranges. The smaller rows of bushes are vines which grow a particular kind of grape from which raisins are made.

The ranches are all small, usually not more than 50 acres; they are not nearly so large as the wheat farms of Canada or the cotton plantations of Alabama. As the ranches are small the houses of the farmers are close to one another. We shall visit a farmer who lives close to this ranch but who grows chiefly grapes. He is, like all his neighbours, rather well off. He has a private motor car and a telephone in his house and he sends his children to school in the small town about 3 miles away. Fig 45. shows us part of this ranch with the Sierra

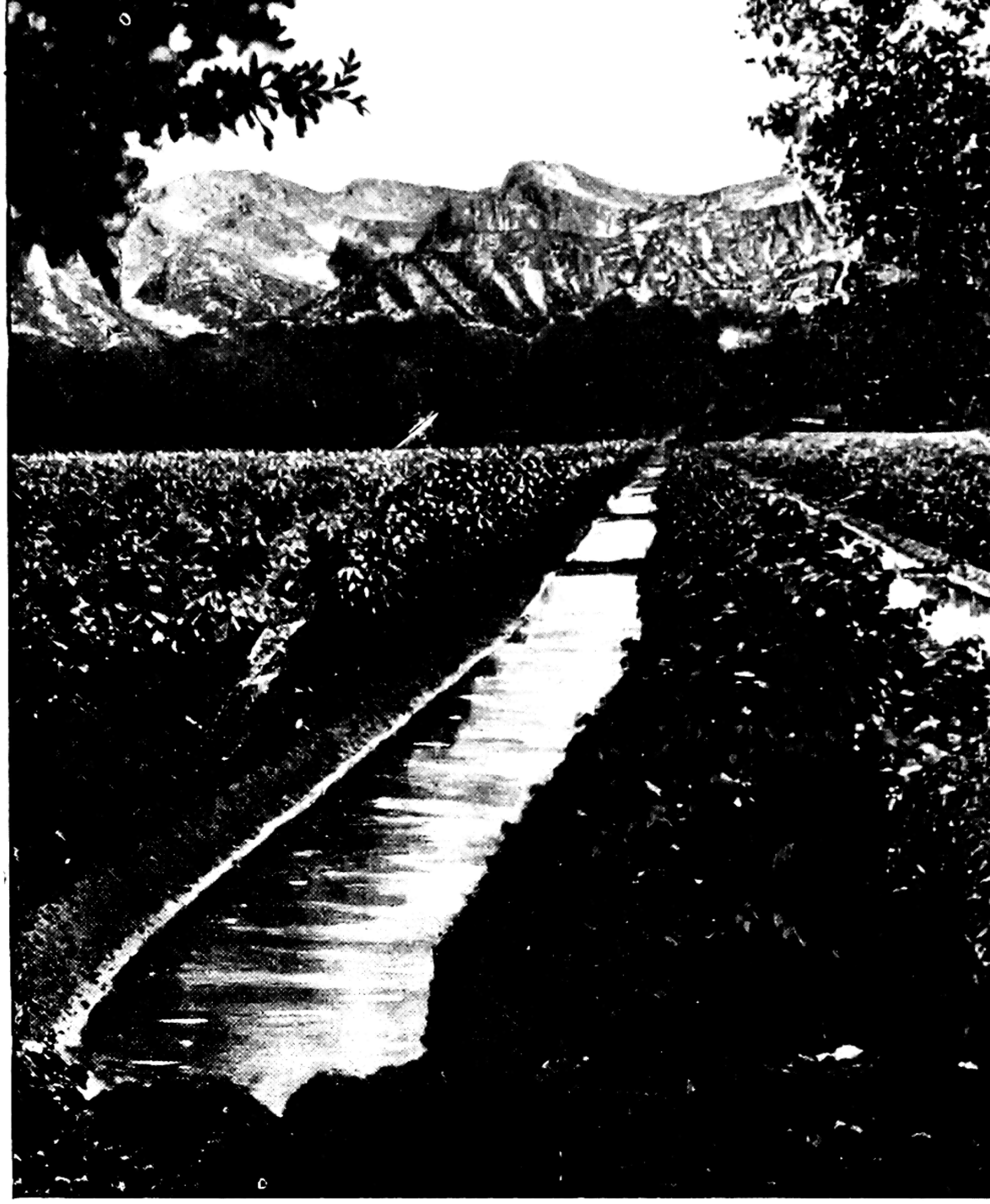


Fig. 45.—Irrigation of Vines on a Ranch near Fresno

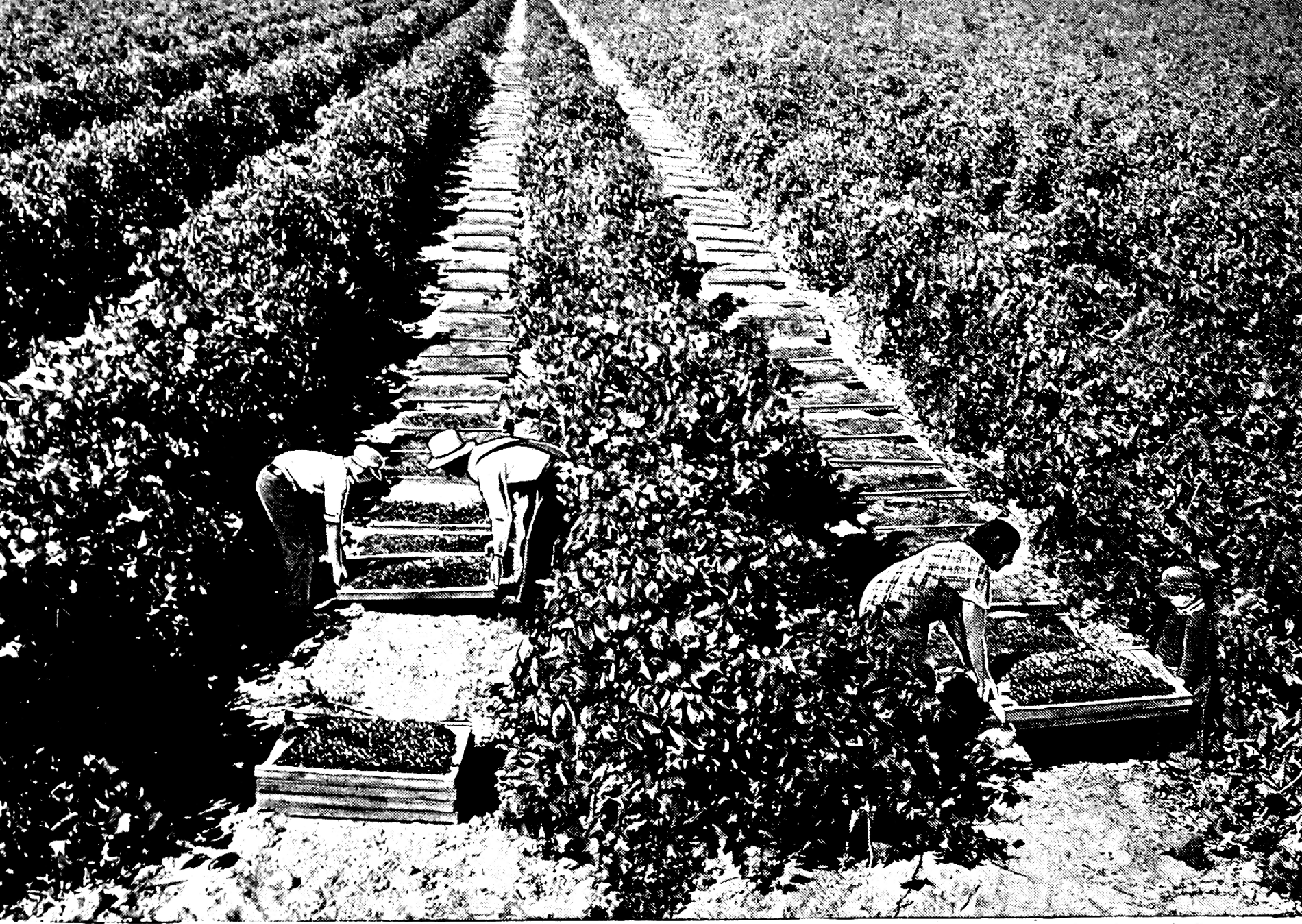
The Sierra Nevada are seen in the distance

[*By courtesy of Fresno Chamber of Commerce*

Nevada rising in the distance. It has acres and acres of vineyards with smaller patches of peaches and figs.

The vines are very carefully tended. During the winter they have been pruned and the land between the rows has been ploughed. There may have been frosts at night but never enough to stop this kind of work. From April to June the farmer has had to spend much time weeding. A good vineyard is full of grapes not weeds. Except in winter there is little or no rain and the air is dry. In summer, when the sun shines brilliantly and it is hot the air is very dry indeed. In fact it is so dry that the vines would die if the farmer did not bring water to them, that is, if he did not *irrigate* the land. Without irrigation this land would be a desert.

The water is obtained partly from wells but much more



[By courtesy of Fresno Chamber of Commerce.

Fig. 46.—Drying Seedless Grapes on a Ranch near Fresno

comes from the rivers which are fed by the rain and snow that fall on the Sierra Nevada. The snow melts slowly in the spring and keeps the rivers full between April and July when most water is needed. Fig. 45 shows two of the channels that have been dug between the rows of vines to make the ground moist and everything beautifully green.

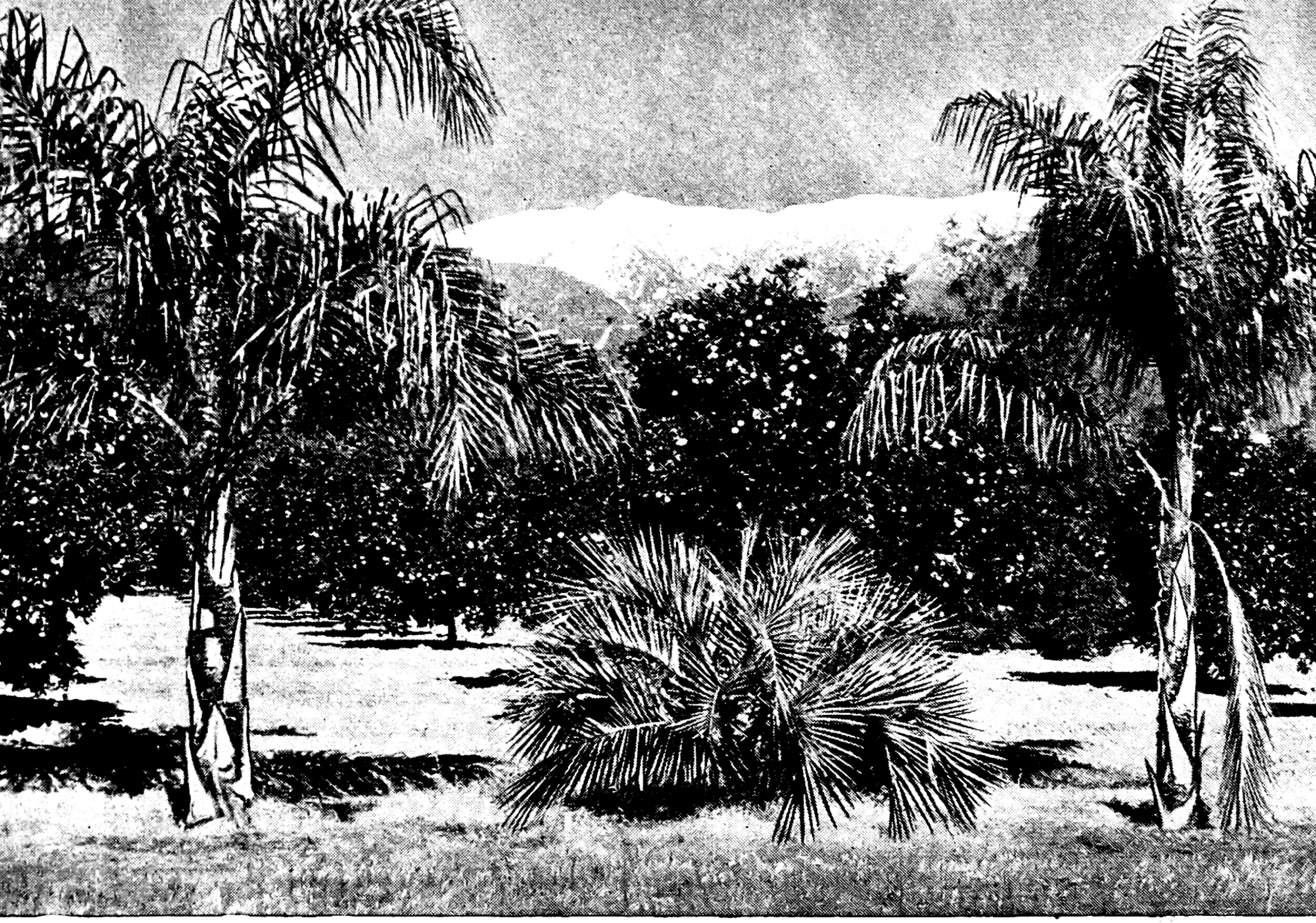
The farmer's busy time comes when the grapes have to be picked, from about the beginning of August to the end of October. At this time the air is so dry that even at night there is no dew and a piece of tissue paper, left lying on the ground in the evening, is dry and crisp in the morning. Because the summer is so dry grain could be cut, threshed and sacked ready for market just as it stands in the field. For the same reason fruits can be " cured " in the open air ; plums become prunes and grapes become raisins. As fruit growing is here so much more valuable than wheat, grain has given place to fruit.

When the grapes are picked they are placed on wooden trays, 22 lbs. to a tray. The full trays are laid on the ground, as in Fig. 46, side by side between the rows of vines, and the hot sun turns them into raisins in from ten days to three weeks. As soon as they are purple-brown on the top they are turned over. When both sides are the right colour the trays are stacked one on top of the other. This shades them from the sun and makes the drying a little slower but produces better raisins.

The work must be done quickly. Extra hands are employed. Men, women and boys all take part in it. The school is closed so that the youngsters can lend a hand. Labour is also supplied by some of the Japanese, Mexicans, Indians and Italians who live between Fresno and San Francisco, and even men from the cities come to help. The farmer provides a camp in which the pickers live. Some of them are seen at work in Fig. 46. They are paid at so much a tray and they earn good wages.

The district round Fresno, as we can see in the pictures, is a flat land. This flat land is part of the Great Valley of California. The valley is 50 miles wide and stretches a long distance from north to south between the Sierra Nevada on the east and the Coast Ranges on the west. It is not all like the land round Fresno. In other parts, especially away north beyond San Francisco, there is more rain all the year round, grapes to eat and grapes for wine are more grown, fruits like pears and cherries are common and there are many thousands of acres of vegetables.

To the south of Fresno, near Los Angeles, is the second place we wish to visit, also in the long State of California. Here, as at Fresno, all the rain falls in a mild winter, the summer is dry and hot, and there is plenty of fruit—grapes, peaches, lemons and oranges ; but oranges are by far the most important. We are going to an orange grove.



[*Shepstone*

Fig. 47.—Orange Grove near Los Angeles
The mountains behind are the Sierra Nevada

In the orange grove the trees are planted in straight rows at equal distances apart, as in Fig. 44. Now look at the orange grove shown in Fig. 47. The snowy mountains behind it are the Sierra Nevada. Notice that the trees, even when full grown, as these are, are rather small. They have bright, glossy evergreen leaves and sweet smelling, white wax-like blossoms. From the latter have grown the oranges with which the trees are laden. Very young trees have to be looked after with as much care as a fond mother gives to her baby. Plant food has to be given to the soil ; the bushes have to be sprayed to kill insects and other pests, supplied with plenty of water all the year round, and guarded against cold. No weeds are to be seen and no land is wasted on fences ; the trees are planted right up to the edge of the road.

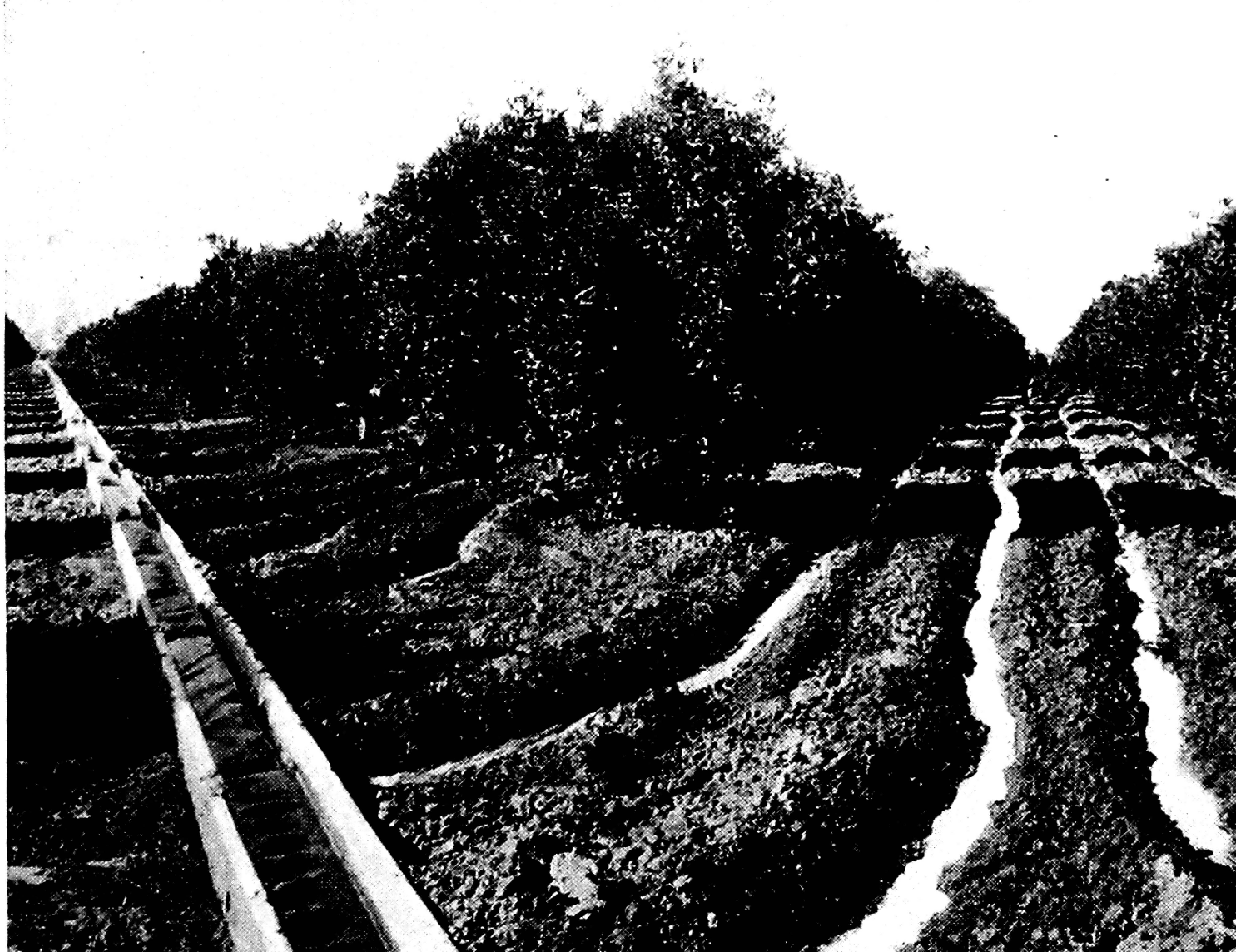
All this fruit growing business depends on water and sunshine. The orange groves, like the vineyards, have to be irrigated and the water has to be brought from a distance. In the orange ranch shown in Fig. 48 we have another way of irrigating the land. Here the trenches are smaller and much more roughly made. The water is brought by the long, straight channel on the left and is let out, from time to time, to flow into the trenches and moisten the soil. Each opening can be closed after enough water has flowed into a trench. The picture shows that some trenches have water in them while others are dry.

The sunshine, unlike the water, costs nothing. It is, however, worth a great deal. Without the sunshine fruit growing and fruit drying would not be such great industries.

Sunshine in this land is also worth money in other ways. It makes life so pleasant that many people, who can afford it, go to California either for a pleasant holiday or to live there altogether. Many invalids could not live anywhere else.

Fig. 48.—Irrigating Oranges near Los Angeles

[*Shepstone*



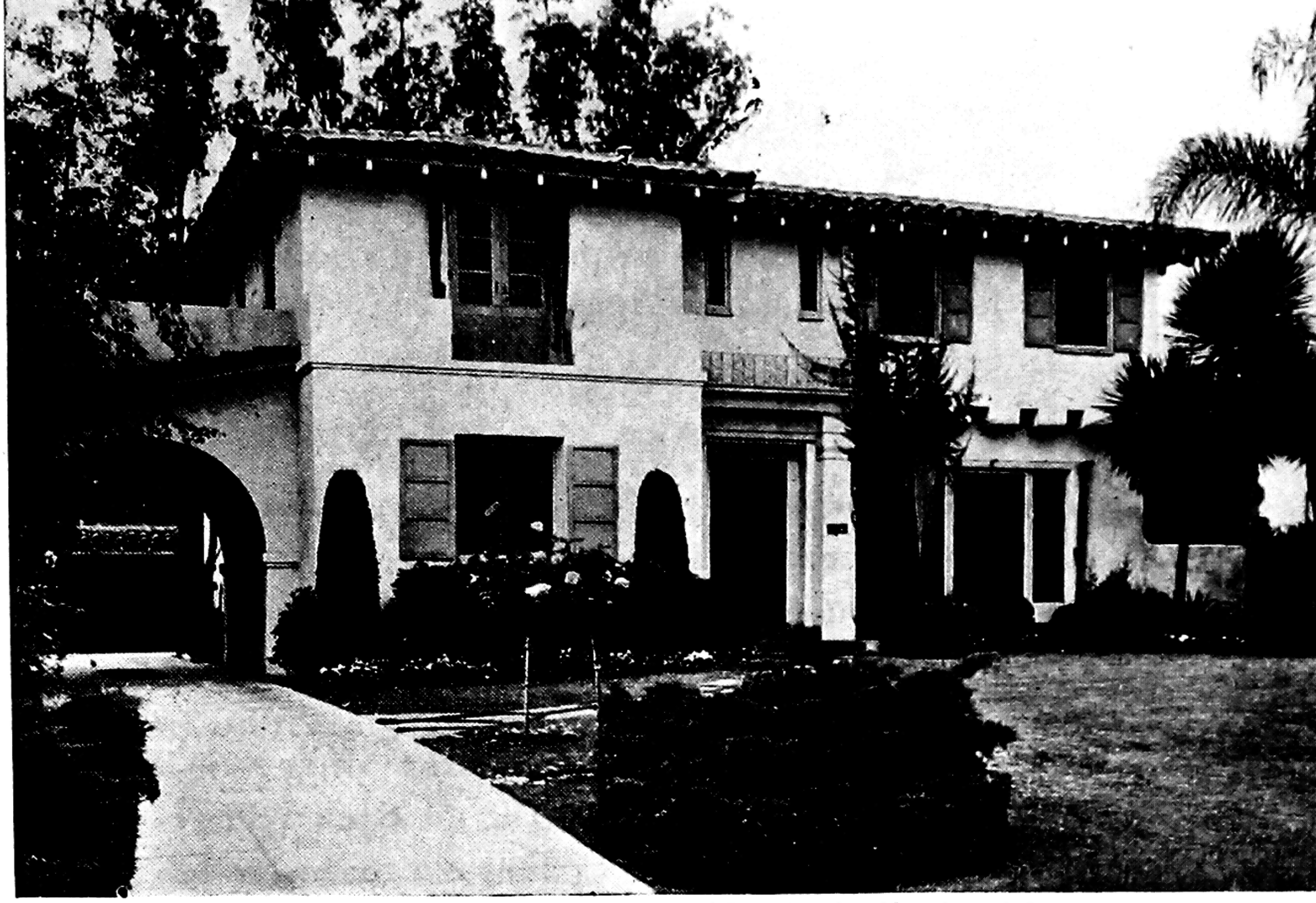
The climate allows them to be out of doors all the year round. Usually the sun shines on 350 days out of 365. There are not a dozen days in the year when outdoor games like lawn tennis cannot be played, though the autumn is sometimes chilly and in winter the houses have to be warmed.

In our time the sunshine has had yet another money value. In Los Angeles is Hollywood, the centre of the " movie " business. The first films for the " pictures " were best made in a land where the light is clear and bright and there are many sunshiny days, the winter is mild enough to allow the actors to do a great deal of work out of doors and there is very little strong wind. Most pictures are now, however, " shot " in studios by the aid of powerful electric lights, both at Hollywood and in countries with a less suitable climate, but Hollywood remains the chief home of this industry because it started there.

At Hollywood there are many people who get their living, not by acting, but by making the things the actors need. There are people who supply copies of the furniture, clothes and shoes in use in any country at any time, soft pottery that can be broken on a man's head without hurting him and even wild animals, like the lion, that may be wanted at one time or another.

The name *Los Angeles* means the " city of the angels." Like many other names in California it is Spanish. For instance—*California* itself is Spanish for *hot furnace ; San Francisco* is Spanish for *St. Francis ;* and *Sierra Nevada* means *Snowy Mountains.*

It was the Spaniards who first saw the highlands of the west and settled there, but it was from the sea that they first reached them. They crossed the continent at the Isthmus of Panama and so reached the Pacific Ocean. On the Pacific Ocean they built boats and in these they sailed along the coast, to the north as well as to the south. In Chile and in other parts of South America there are still people of Spanish descent who



[By courtesy of Los Angeles Chamber of Commerce

Fig. 49.—A House in Los Angeles

speak Spanish and, as we have seen (Book I, Chapter I), tend to live after a Spanish fashion. In California, however, they have left nothing behind them except the names of a number of places, the ruins of a few churches, and a few not very important buildings.

Los Angeles, in many ways, is like most other American cities. The pavements, or " side-walks," are very broad in the business part of the city and, when there are gardens round the houses, they are not separated from the road or from each other by fences. But it is more beautiful than many American cities and parts of it look rather different. Look at Fig. 49. It shows a house in Los Angeles. Notice that it has heavy, overhanging eaves to keep off the sun, thick walls to keep out the heat, and roofs that are sloped enough to shed rain but are not steep like those in lands where snow falls. The windows are smallish, but they can be widely opened to let in the air when it is cool, while they have shutters, or outside curtains, to keep it out when it is hot.

Whether man grows crops or builds houses he takes account of the land in which he lives.

WORK TO BE DONE

1. At what time of the year does most rain fall in Southern California?

2. How is the summer's sunshine useful?

3. How can you tell from Figs. 47 and 49 that they have been taken in a warm land?

4. Of what use is the snow on the mountains?

5. Are the following names suitable ones: Sierra Nevada, California?

6. Is there much cloud in summer in the Great Valley?

7. Do you think "sun-maid" raisins is a good name?

8. In what direction are you looking in Fig. 45? Give a reason.

9. In what direction are you looking in Fig. 46? Give a reason.

10. At what time of the year was Fig. 46 taken?

11. Make a list of fruits mentioned in the chapter that are grown in California.

12. Name as many things as you can in Fig. 46 that tell you about the Great Valley.

13. Name one place in South America and one in Australia where fruit grows.

14. Fill in the blanks in the sentence "California is like Alabama because ; it is unlike Alabama because ."

15. In the case of each of the following name one way in which man takes account of the climate: Baffin Land, Newfoundland, Northern Ontario, the prairies, Illinois, Alabama, Kansas, California?

16. On a map of North America find what distance stands for 160 miles. Fresno is that distance south of San Francisco.

17. How much bigger is the wheat farm in Chapter IV than an ordinary fruit ranch near Fresno?

CHAPTER IX

CATTLE FOR CHICAGO

On the map of North America find the following as you come to them: Kansas, Arkansas R., Mississippi, Rocky Mountains, Mexico, Texas, the High Plains, Chicago, Michigan.

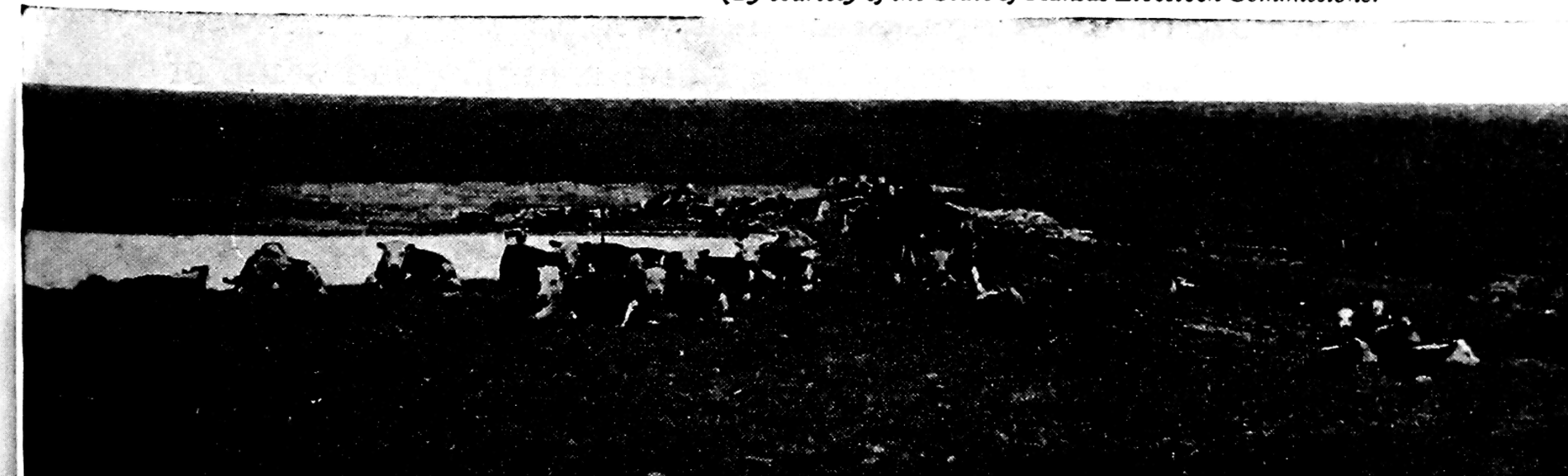
In this chapter we shall pay a visit to a place in the very south-west of the State of Kansas. It is about 80 miles from the western border of the State and rather less from the southern border. It is not very far from the town of Cimarron. Cimarron is on the Arkansas R., a river which flows into the Mississippi.

This land is something like the pampa, as we see in Fig. 50. There is grass everywhere. As on the pampa we have to travel on horseback, for this is a " land where everybody rides and nobody walks."

While we ride across the almost level plain we notice several things. For long distances there are no trees. There may be trees in the valleys but many of the valleys lie below the level of the rest of the land and the trees in them are hidden from us. The birds flying above our heads have their nests on the ground. There are no landmarks and if we had no guide we should very

Fig. 50.—Cattle on the Great Plains, Kansas

[By courtesy of the State of Kansas Livestock Commissioner



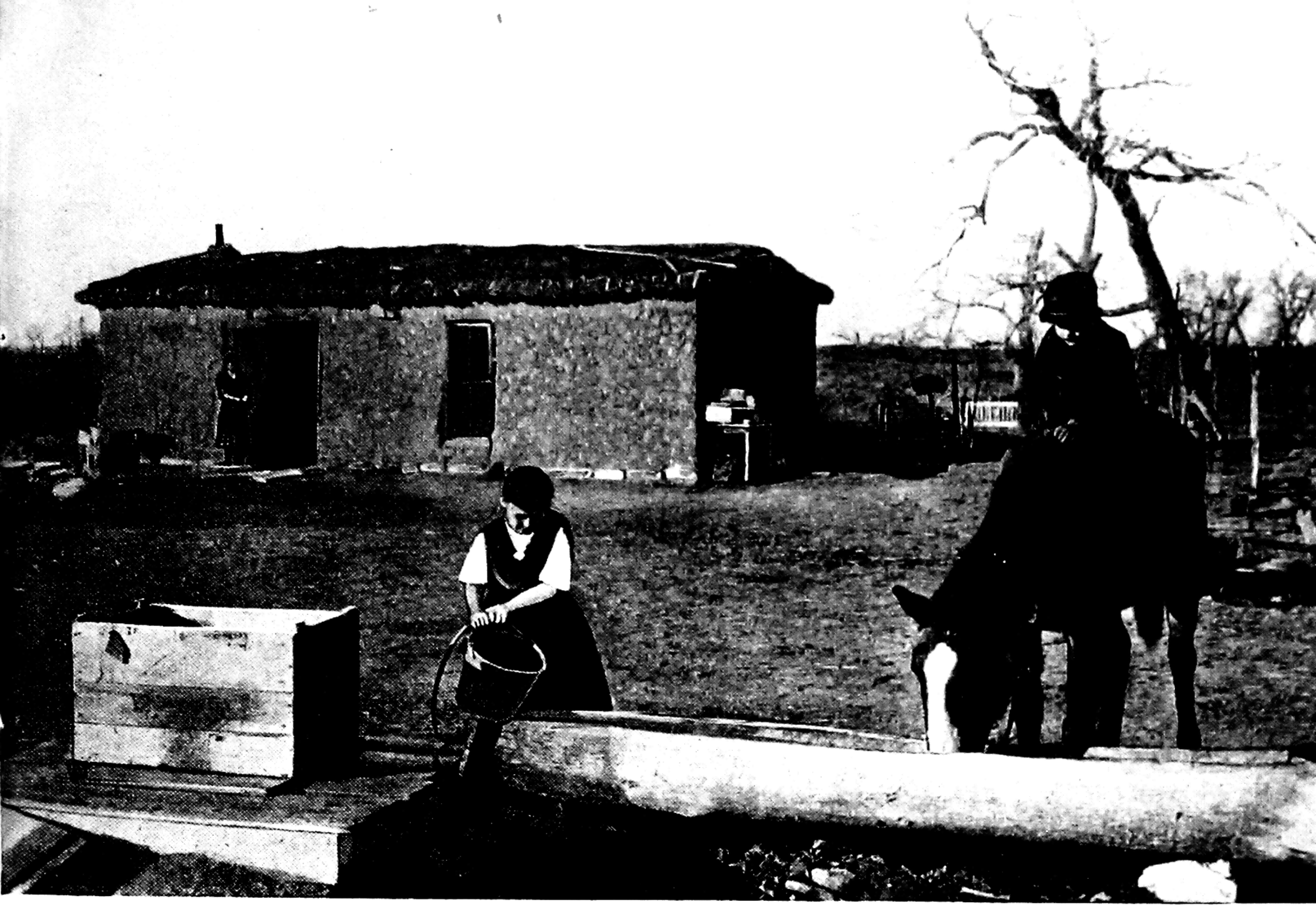
likely have to find our way with a compass like a sailor at sea. Here and there we may see some cattle, possibly by a pond or stream as in the picture. This is a land of cattle. Because the air is so dry it is very clear though sometimes the wind may raise such a cloud of dust that we can scarcely see any distance. To-day, however, we can see the smoke of an engine 25 miles away.

On these plains once roamed herds of millions of bison. No longer ago than the years when the authors of these books were born, there was one herd which was thought to contain 4,000,000 animals. It is difficult to believe, but it is true, that all these bison have disappeared during our short lives, except for a few that are specially kept at liberty in national parks. A million and a half were killed to feed the builders of the railways that were first made across the plains when the authors were two or three years old.

At last we reach the farmhouse shown in Fig. 51. It is near the Cimarron R. From this river water soaks underground and enables trees to be grown. Our visit is made in the early autumn, or "fall," as it is called in America, because that is the season when the leaves fall. Notice the bare branches in the picture.

As there is no stone and little wood on the prairie and the people are poor the house is built of blocks of turf cut from the tough grass sod. The roof is made of rough boards covered with loose earth and more sods. It is rather flat, since there is not much rain to run off. There are only two rooms; one of these is the bedroom, the other is kitchen, dining-room and parlour all in one. The partition between the two rooms is of rough boards covered with newspaper. There are not now many of these houses left but, when these prairies were being settled, such houses were quite common and some of them were even smaller than this one and had only one room.

Look again at the picture. What else can we learn from it about this country? Notice that even the small boy is riding

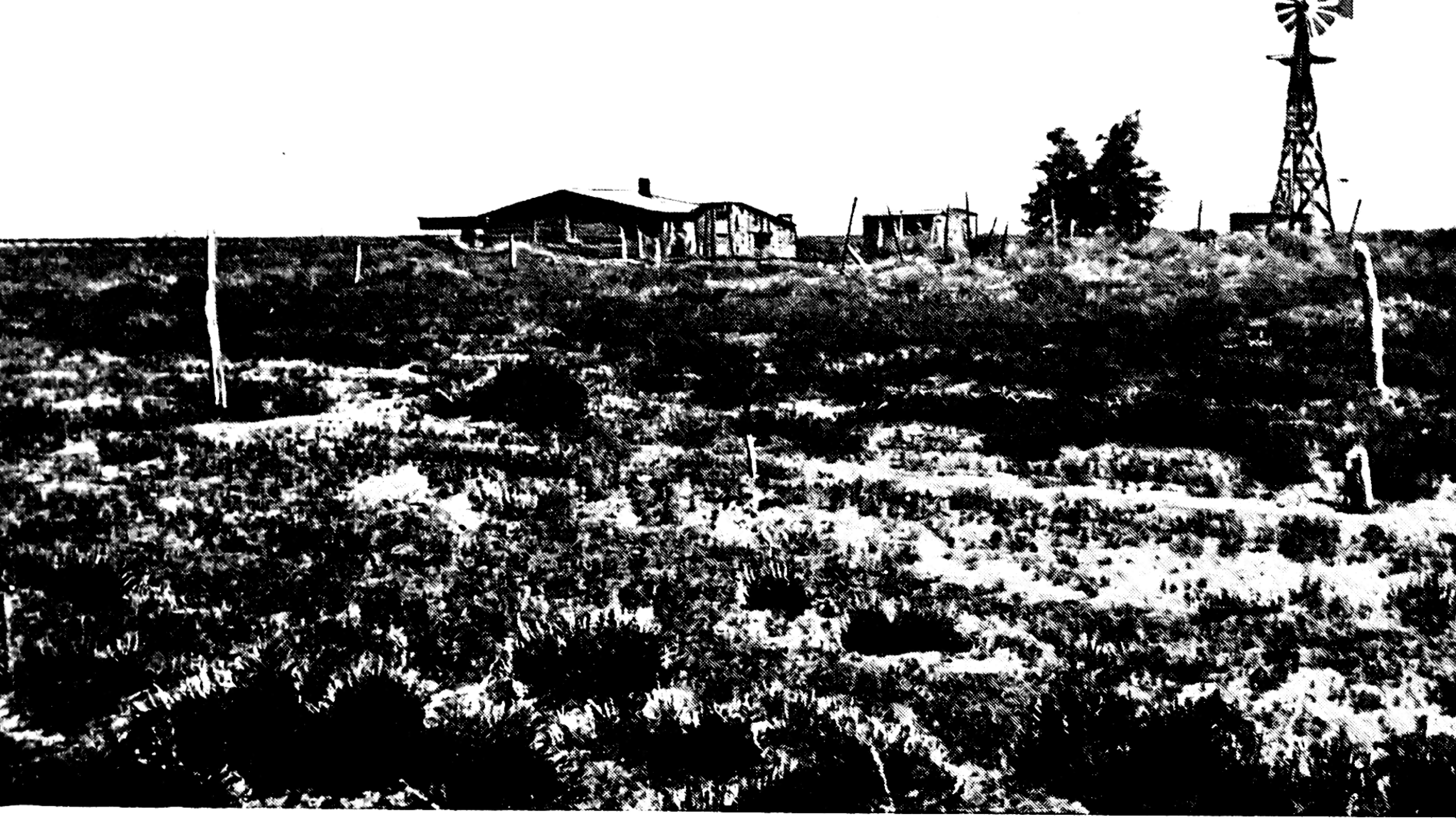


[By courtesy of Aitchison Topeka and Santa Fé Railway

Fig. 51.—A Farm near the Cimarron River, South-west Kansas

and that the horse is drinking from a very simple trough, hollowed out from a cotton-tree. The girl has drawn a bucket of water from the well on her right ; the rope by which she drew it up is trailing by her side. The well is only about 15 feet deep because the well is near the river. The top of the well is protected by a box with the top and bottom knocked out. This keeps chickens and small animals from falling into the well.

By the side of the house is a table on which are some boxes. In these boxes, because there is little room in the house, food is stored, especially in winter when it is very cold. During most of the year, however, it is warm enough for most housework to be done out of doors. Beside the table is a mowing machine. This is used to cut the hay which grows so well on



[*By courtesy of George J. Miller*

Fig. 52.—A Deserted Farm, South-west Kansas

the flat land close to the river. The hay is used to feed the cattle in winter.

During winter storms, that may last for more than a week, there is a thin coating of ice on the ground, and the cattle, unable to reach the grass, would starve if the farmer had no supplies of food ready for them.

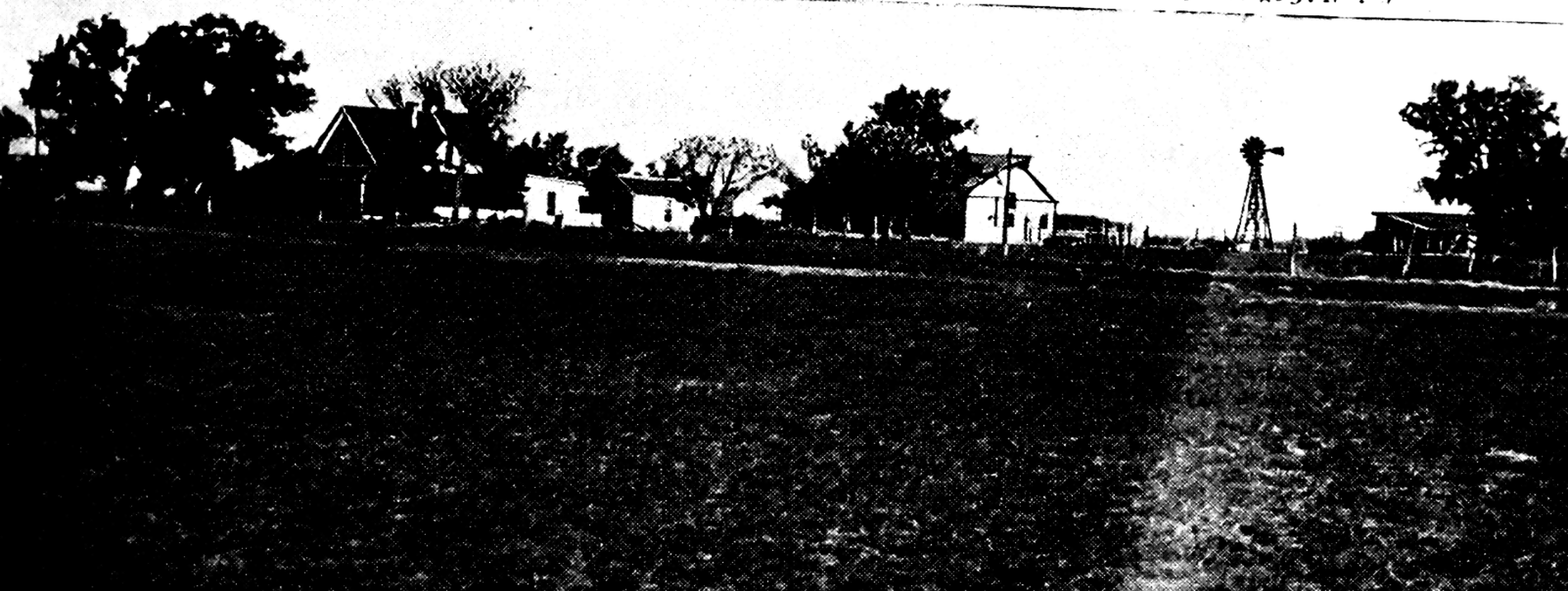
In Fig. 52 is another farm, a long way from any stream. There are no trees and the roof overhangs a great deal in order to give shelter from the strong sun. Though more rain falls in some years than in others, there is never very much as we can guess from the flatness of the roofs both of this house and the one in Fig. 51. The farmer who built this house put it up in a year when there was more rain than usual. He ploughed up the tough grass and raised a crop. Then came years with less rain and nothing would grow. The tough grass sod which had protected the soil had gone. The soil became dust and the strong winds blew it away. As the farmer had nothing on which to live he left his farm, quite deserted. Then light thistle seeds, blown by the wind, settled on the surface, and after the first shower sent down long roots into the ground. Thistles do not dry up so easily as most plants and they held their sap long enough to fruit and seed before they, too, died for lack of water. But one thistle plant has thousands of seeds and these, in time, blew about and grew on the dry soil. All the vegetation in Fig. 52 is thistles and even they do not cover all the ground; a great deal of the land is bare and all of it is useless.

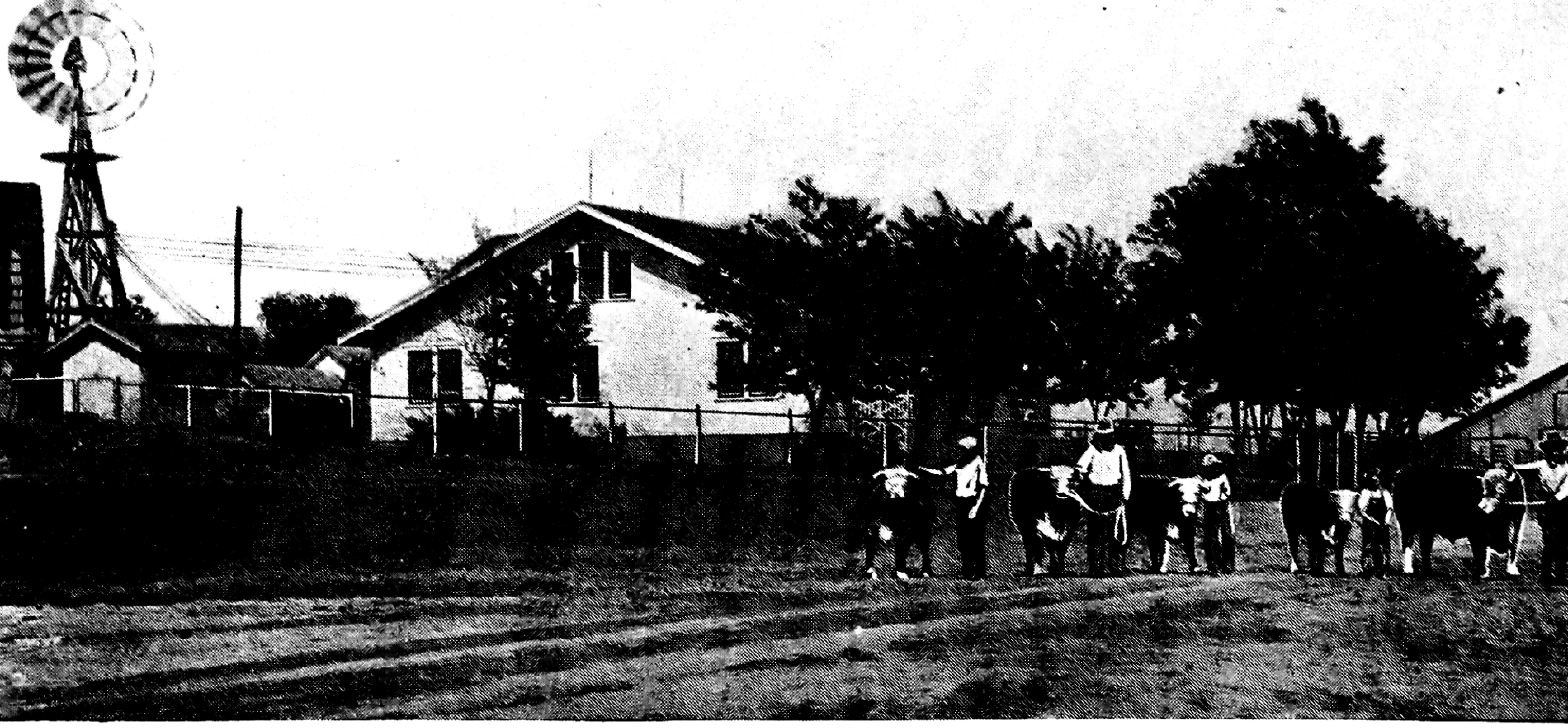
Now look at the farm in Fig. 53 and see what a difference water makes. This farm is on the Arkansas river itself, 40 miles west of Cimarron. There is no more rain here than on the other farms but there is always water in the river. The Arkansas flows from the Rocky Mountains where there is always rain or melting snow, so it never dries up. Water can be taken from it at any time and led, in little channels, to the flat land on either side. Hence the farmer can grow crops without letting the soil become dust. The crop in the foreground is alfalfa which is a good, rich food for cattle.

The farmer is well-to-do and has a large house. The roof, in this case, is more slanting, not because there is more rain, but because it forms an upper storey and the farmer wished more room than a flattish roof would give. There are many out-buildings which, like the house, are well sheltered from wind and sun by the trees.

Fig. 53.—Farm on the Arkansas River, South-west Kansas

[By courtesy of George J. Miller





[By courtesy of Aitchison Topeka and Santa Fé Railway

Fig. 54.—A Farm in South-west Kansas, supplied by water from deep wells

Fig. 54 shows yet another farm, a cattle farm or ranch. The picture was taken in late spring : some of the trees have sprung into leaf but others are still leafless. This farm, like the second one we saw, the one that the farmer left because nothing would grow on it, is on the high plains and far from a river. Yet what a difference there is between the two. This house is well built and carefully looked after ; it has two storeys ; there are many more outbuildings ; a strong wire fence surrounds the garden ; there are shrubs and trees round the house ; the cattle lined up in front are strong and well-fed. Why should there be such a difference between the two farms ? Neither of them has much rain, as the flatness of the roof shows, and both have strong hot sun as is shown by the overhanging eaves. In neither case is there any river.

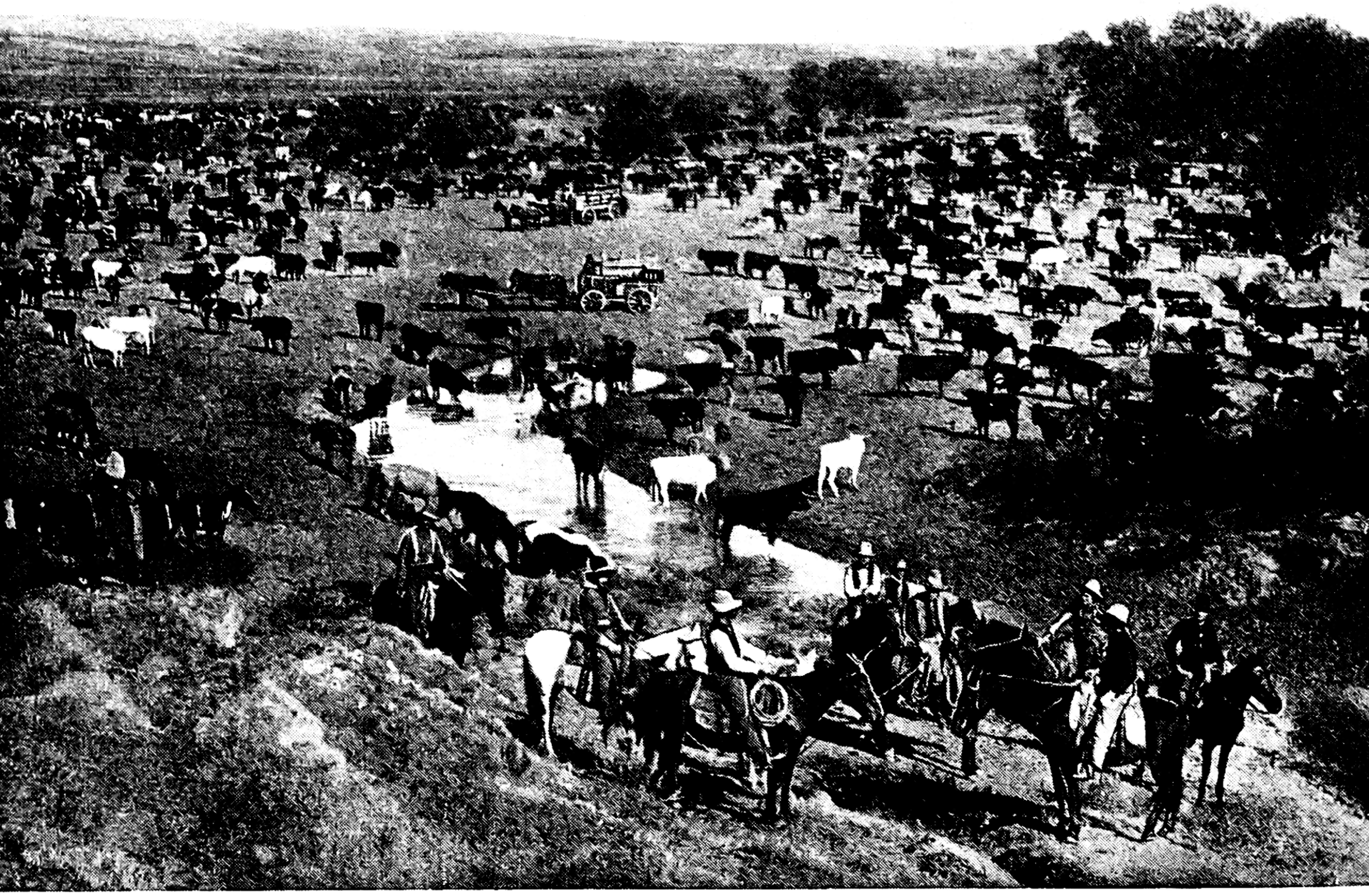
There are two chief reasons for the differences we see. The first is that the farmer has not ploughed up the grass sod and let the soil blow away ; he does not try to grow crops but raises cattle. The other is that though there is no stream and little rain, there is water to be had from wells, not from a single little shallow well only 15 feet deep which gives little water, but from wells ten times as deep, 150 feet. Water could not be easily drawn from such deep wells with a bucket; it is pumped by windmills. On the left of the picture is one of these windmills. There are other wells and windmills on other parts of the farm and there is also a small power plant that helps to pump, especially when there is little or no wind. The water is stored in the big tank on the left of the windmill and there is enough not only for use in the house and to give to the animals but to water the small garden, the lawn, the shrubs and the trees which would not otherwise grow.

To the right of the windmill is a pole that supports some wires. The power plant not only pumps water but supplies electricity to light the house and drive machines that grind food for the cattle and do other kinds of work. Though this ranch is a long way from any other the people in it live very comfortably.

The cattle on ranches such as we have seen are reared for beef. There is no dairy farming. It would be impossible to milk all the animals twice a day and there is no market near at hand where the milk could be sold. Hence, in the autumn, there is a round-up, to pick out the animals that are to be sent away to be sold for food. There is another round-up in the spring, as in Argentina, when the calves are branded with the owner's mark but this is not so important. In Fig. 55 we see part of a round-up in late summer.

The pool is one of a series that lie all along the valley of Crooked Creek. They are fed by underground water. When there is much rain a stream flows down the valley to join the Cimarron R. As the pools lie in a small valley the ground is damp and some trees grow naturally.

In the foreground are the cowboys with their horses and lassos. Because the grass on the plains is rather thin the cattle that feed on it need a great deal of land in order to find enough food and are usually widely scattered. In order to gather them together in one place the cowboys have been out



[*By courtesy of Aitchison Topeka and Santa Fé Railway*

Fig. 55.—Round-up of Cattle, South-west Kansas

in small groups and have slowly driven them down to this water. Such a round-up lasts some time: on large ranches it may last several weeks. The men take with them their food, bedding and other supplies, carrying them in wagons, called " chuck wagons," which can be seen in the centre of the view. When all the animals have been gathered together the chosen beasts are separated from the rest and driven away to the nearest railway station in a little country town where there are cattle-yards and loading pens.

The farms which we have seen, though many miles from each other are all on a very small part of what is called the High Plains of North America. You will remember that as we went west from Calgary we passed over a high part of the prairie where we saw many cattle grazing and thought of the pampa. This was before we reached the Rocky Mountains.

The plain that we crossed in Alberta is another part of the great high plain that lies along the east side of the Rocky Mountains, and stretches from Canada in the north to Mexico in the south.

The Great Plains cover so much ground that they are not alike in all parts. The north is much cooler than the south, and the west, especially the south-west, is drier than the east. Some parts of Texas are even drier and more like desert than the south-west of Kansas. But they are all alike in one thing. As on the farms we have visited cattle are raised on them for food.

But if the cattle are to be used for food they must be sent to places where there are plenty of people. Such places are, first of all, the eastern parts of the United States and, secondly, the great countries of Europe. Now it is much easier to kill the animals and send the meat away, either frozen or sealed up in tins, than it is to send the cattle away alive.

The killing and preserving are best done at some spot which can easily receive the animals by rail and export the meat by rail or water. The most convenient spot is the most central and the one with the necessary trains and ships. That spot is Chicago, which has the waters of Lake Michigan at its front door and railways running into it from all directions on the other sides.

Cattle come from all parts of the cattle-country to the stock-yards of Chicago to be turned into beef, pigs from the corn belt to be turned into pork and sheep from many other parts to be turned into mutton. They are collected in stock-yards where there are miles of streets, and even miles of troughs full of food. The animals are killed quickly, and soon they have been cleaned and skinned and are ready to cut up. Some of the meat is sent away frozen, some is packed in tins and some is turned into meat extracts. Chicago is the greatest meat market in the world.

WORK TO BE DONE

1. Is it warm or cold (*a*) in winter, (*b*) in summer in south-west Kansas? How do you know?

2. Name two things in the pictures that show there is little rain.

3. In what way is the wind (*a*) useful, (*b*) harmful on these plains?

4. What do the pictures tell you about the land, whether it is flat, hilly or mountainous? Look at all the pictures.

5. Write three sentences to say what grows (*a*) on the high plains, (*b*) in the valleys of the small streams (*c*) in the valley of the Arkansas R.

6. Name two kinds of animals on these farms.

7. Of what use is the high trellis fence in Fig. 54?

8. In what ways is water obtained in south-west Kansas?

9. Find any reasons in the pictures for saying that " this is a land where everybody rides and nobody walks."

10. Do many people live on these plains? How do you know?

11. What kinds of hats are worn? How are they useful?

12. In Fig. 51 which part of the house is the living-room?

13. At what time of the year was Fig. 53 taken? Why do you think so?

14. Name two ways in which this land is like the pampa. Are there any ways in which it is unlike?

15. On a map of North America print in large letters, to show where they grow, the names of the following: wheat, corn, cotton, fruit, timber, cattle. What do you notice?

CHAPTER X

SHIPPING WHEAT

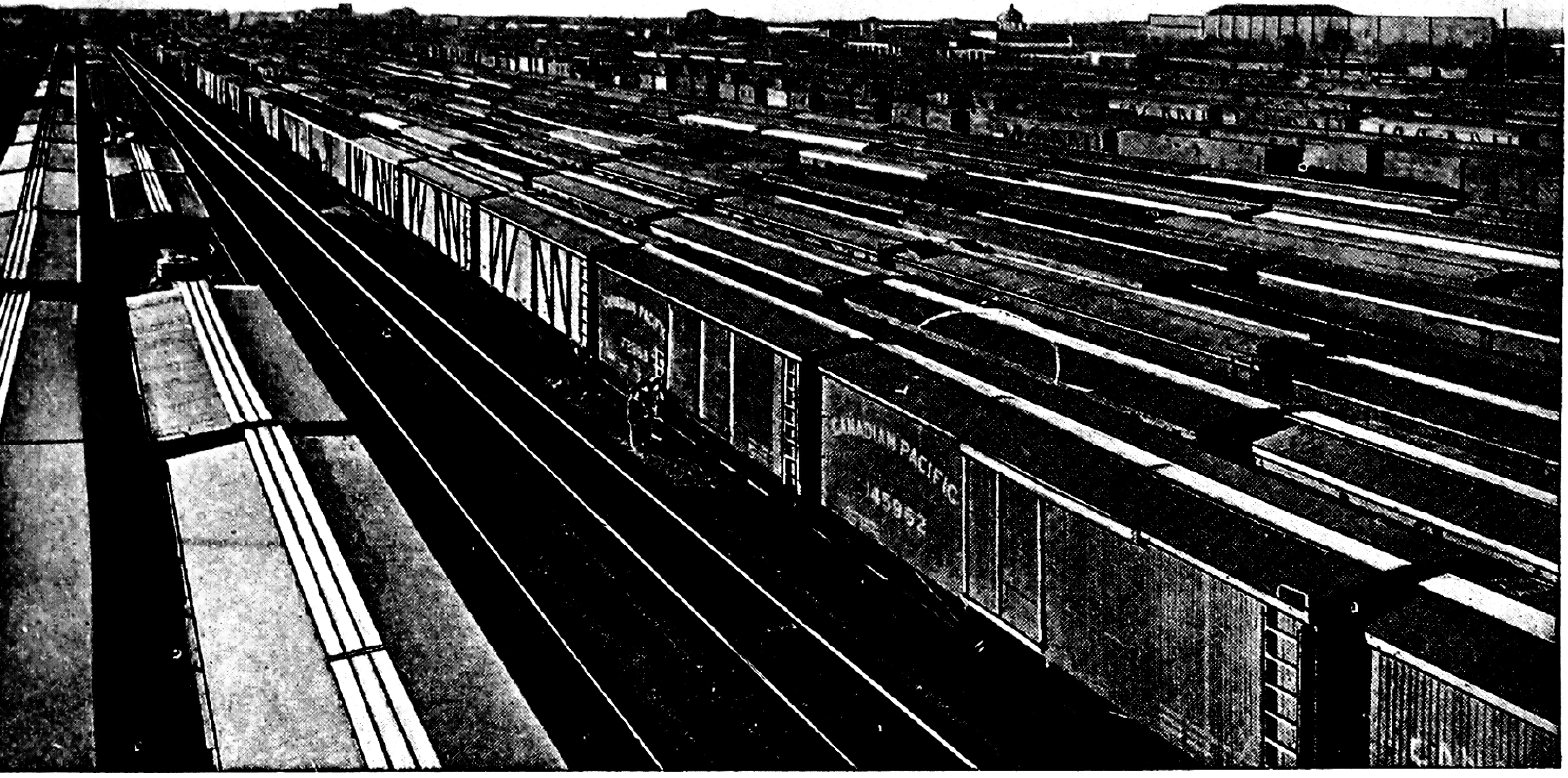
Make a list of all the names mentioned in this chapter and find them on a map of North America.

IN our visits to different parts of North America we have seen people busy, chiefly in producing food—meat, fish, fruit and grain. Of these the most important is grain and of grains the most important is wheat.

The wheat lands of North America, as Fig. 57 shows, are far from the sea and we have to think about the ways by which the crops can be sent to distant cities, either in America itself, or in lands across the ocean. A great deal of America is flat and it has been easy to make railways. More important is the fact that there are a number of water routes by lake and river : it costs less to send goods by water than by rail, so that the water-ways are used whenever possible.

In Chapter IV we left a farmer in Saskatchewan delivering his wheat to an elevator at a small country railway station. We are going to see how that wheat goes to Liverpool.

We have to begin the journey by rail. A train arrives. By means of the " elephant trunks " the wheat is poured out in a golden stream not into open trucks, such as carry coal in England, but into great box wagons. When one load is all aboard we move off to another elevator to pick up some more. By the time we have collected as much as our giant locomotive can pull the train will be half a mile long. Because the prairie is level the line runs straight for many miles. It crosses the roads on the level and, at many small towns, runs right through the main street. On the front of



[*By courtesy of the Canadian Pacific Railway Co.*

Fig. 56.—Freight Yards at Winnipeg

the engine is a bell that the engine driver rings to give warning of the coming of the train.

It will be seen, from a map that Lake Winnipeg lies in our way. As we cannot cross it in the train we must go round the end of it. Other railways from other directions must do the same thing and at the point where all these lines meet is Winnipeg. At Winnipeg a great deal of wheat is collected. In Fig. 56 are seen trains of grain cars in the railway yard which have brought wheat from the prairies to this centre. Here the wheat is stored till it is wanted. There are elevators at Winnipeg big enough to hold enough wheat to last the whole of the British Isles for two months.

We shall not, however, stay at Winnipeg. We go on to Fort William on the shores of Lake Superior. This is the first place at which there is deep water and the larger part of the Canadian wheat crop comes to this lake port where there are enormous elevators. (See Fig. 57.) Train after train arrives, each filled as full as it can hold. Almost before you have had time to think what is happening they are moving out again, their loads having been safely sucked into the elevators. Before long the wheat is pouring out again, this time into a

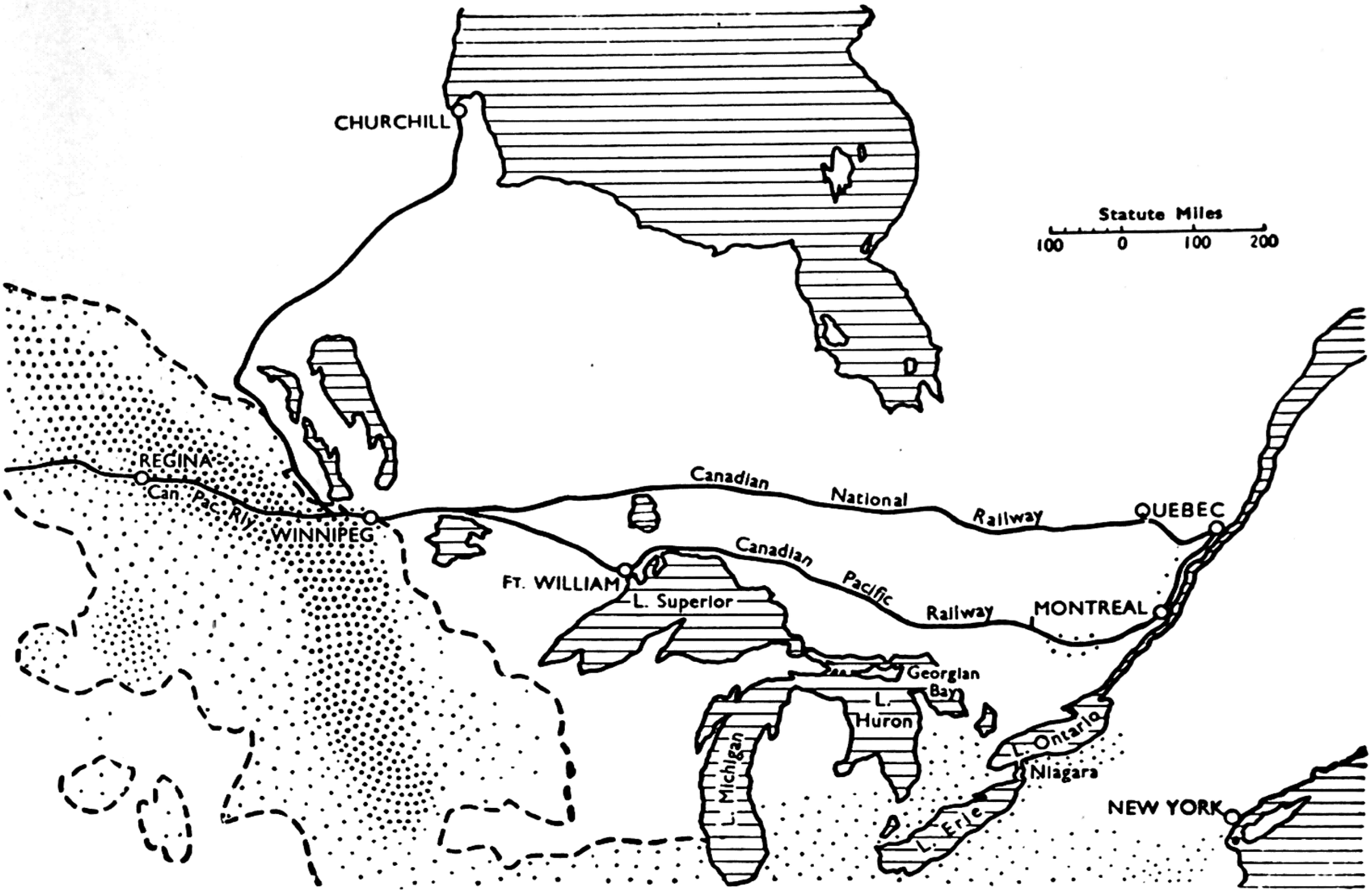
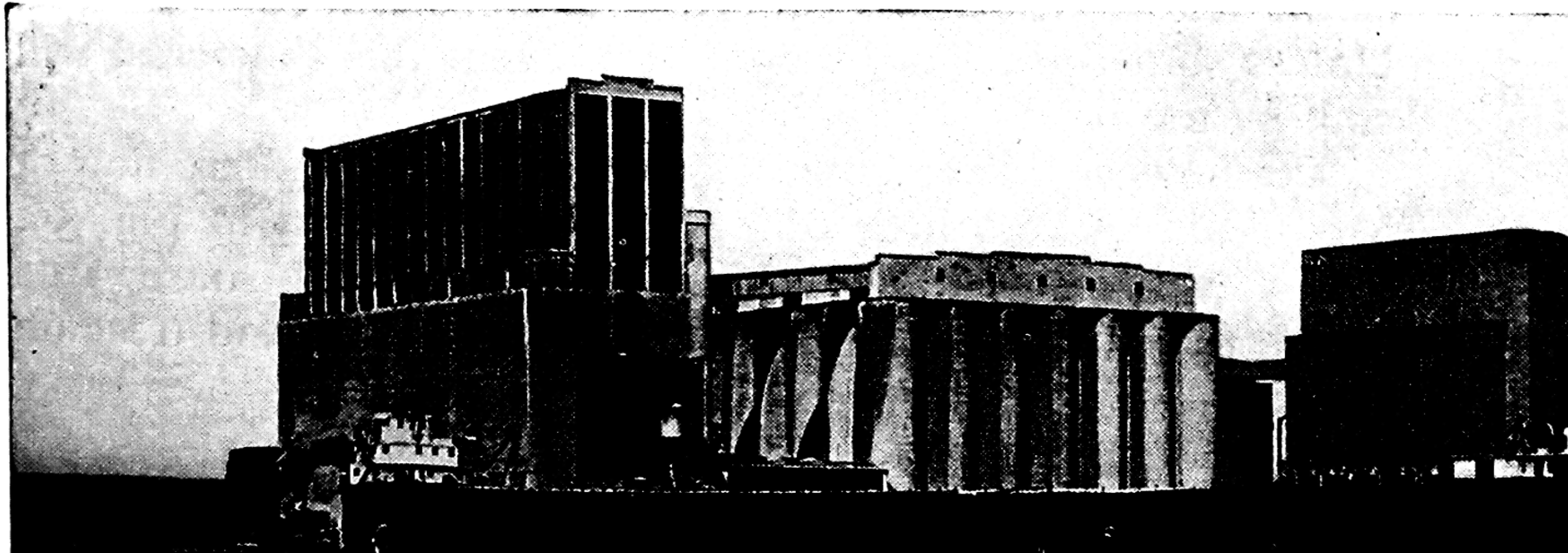


Fig. 57.—Wheat Producing Areas

long low boat called a whale-back. There is one lying beside the great elevator in Fig. 58. It does not look like an ordinary vessel. The middle part, where the funnels usually are, is flat. The funnel of the whale-back is right at the stern. Here, too, lives the engineer : the captain and the sailors are

Fig. 58.—An Elevator at Fort William

[*Canadian Official News Bureau*



at the other end, the bow. The whole of the centre is one big hold in which the wheat is put. In it different kinds of wheat are separated from each other merely by cloths.

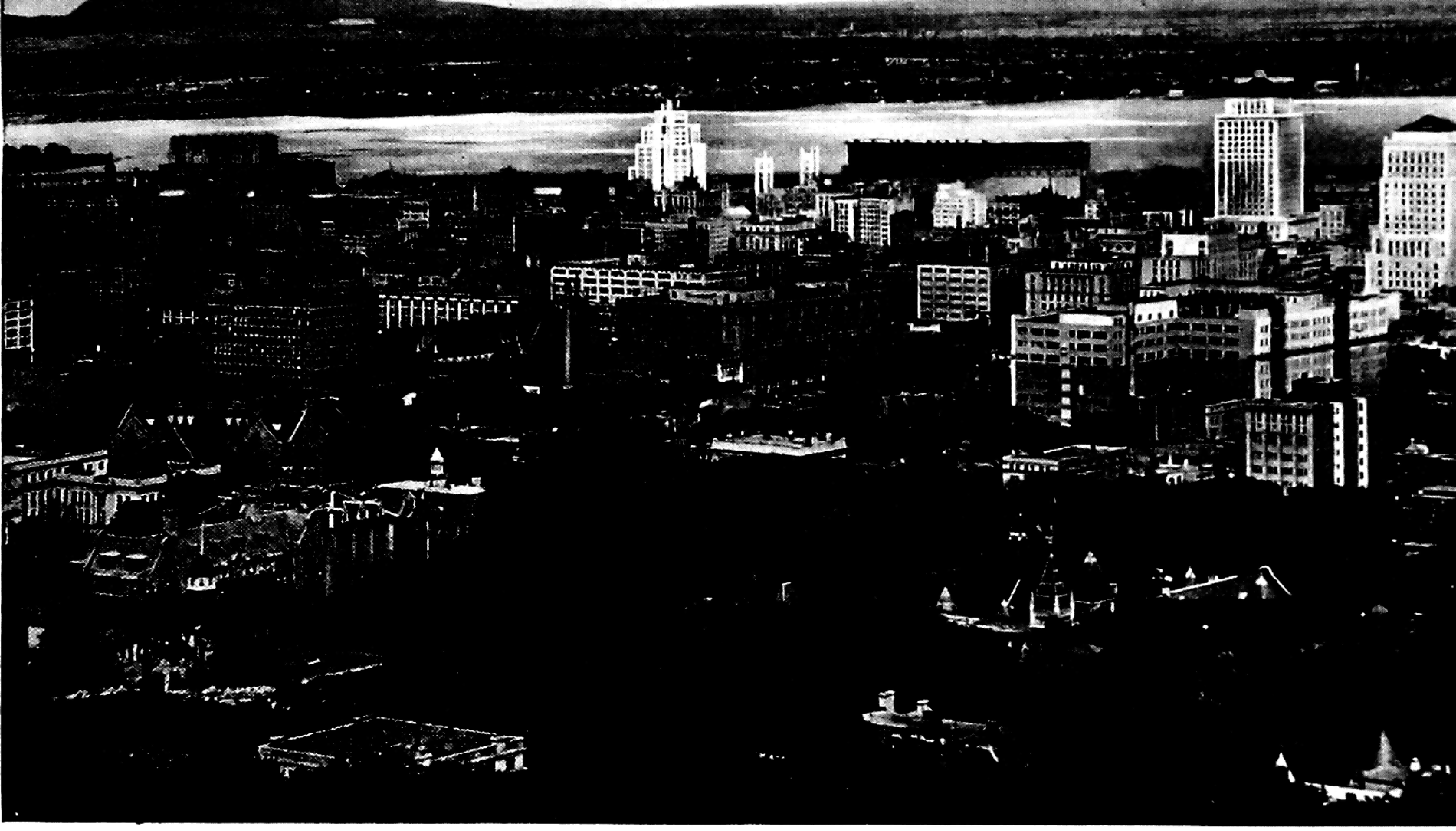
As soon as it is laden, almost down to the water's edge, it moves away and another boat comes up to the quay. In a few seconds it, too, is receiving its share of the harvest. It is necessary to send the wheat away as quickly as possible because the harbour will soon be frozen, and after that, no more wheat can travel on the lakes until the spring.

If you look at the map it would seem as if we could sail from Fort William all the way to Montreal by lake and river but the journey is not so simple as it looks. Lake Superior, for instance, is higher than Lake Huron (Superior means *higher*), and the ship has to pass from one lake to the other by a canal. Lake Erie is at a much greater height than Lake Ontario and in between are the great Niagara Falls. Hence, here, another canal is necessary.

In the canals are locks, something like big boxes with big gates at either end. Above one gate the water is at the higher level while below the other gate it is at the lower level. Water can be let into, or out from, the lock to make the level of the water inside it the same as that outside either end. In this way even big vessels can be raised or lowered.

Sometimes, at the end of the season, in October or early November there may be violent storms on the lakes. At this time the weather is growing very cold and tons of water freeze on the bow of the ship as the waves dash over it. The vessel pitches and, as it does so, the wheat breaks the separating cloths and slides down towards the weighted, forward end. Unless something can be done to prevent this the vessel will sink by the head.

We, however, have come by an earlier boat and are now at Montreal. A very little bit of this city is shown in Fig. 59. The view was taken from Mount Royal, looking southwards across the St. Lawrence R. to the land of fields and trees on



[Canadian Pacific Photograph

Fig. 59.—Part of Montreal from Mount Royal

the other side. The part of the city here seen is the chief business centre where high skyscrapers stand out above the other kinds of buildings in the foreground. The wharves at which the vessels lie are all along the river side. Here the wheat is placed in an ocean steamer which takes it down the St. Lawrence, past Quebec, over the ocean south of Newfoundland and the Grand Banks and so to Liverpool.

Not all the Canadian wheat follows this route. Sometimes, for instance, the vessel does not go round by Lake Erie and Ontario but makes its way to Georgian Bay on Lake Huron where the wheat is sucked out of the boat and poured into more wagons. It has been found that it is cheaper and quicker to pass the wheat from the ship to the train, through an elevator, than to pass it straight from ship to train. From Georgian Bay it is taken to Montreal.

Canadian wheat also reaches the ocean in two other directions. There is now a railway from the prairies to Churchill on Hudson Bay which shortens the journey to Liverpool by 1000 miles. This route, however, can be used only in August,

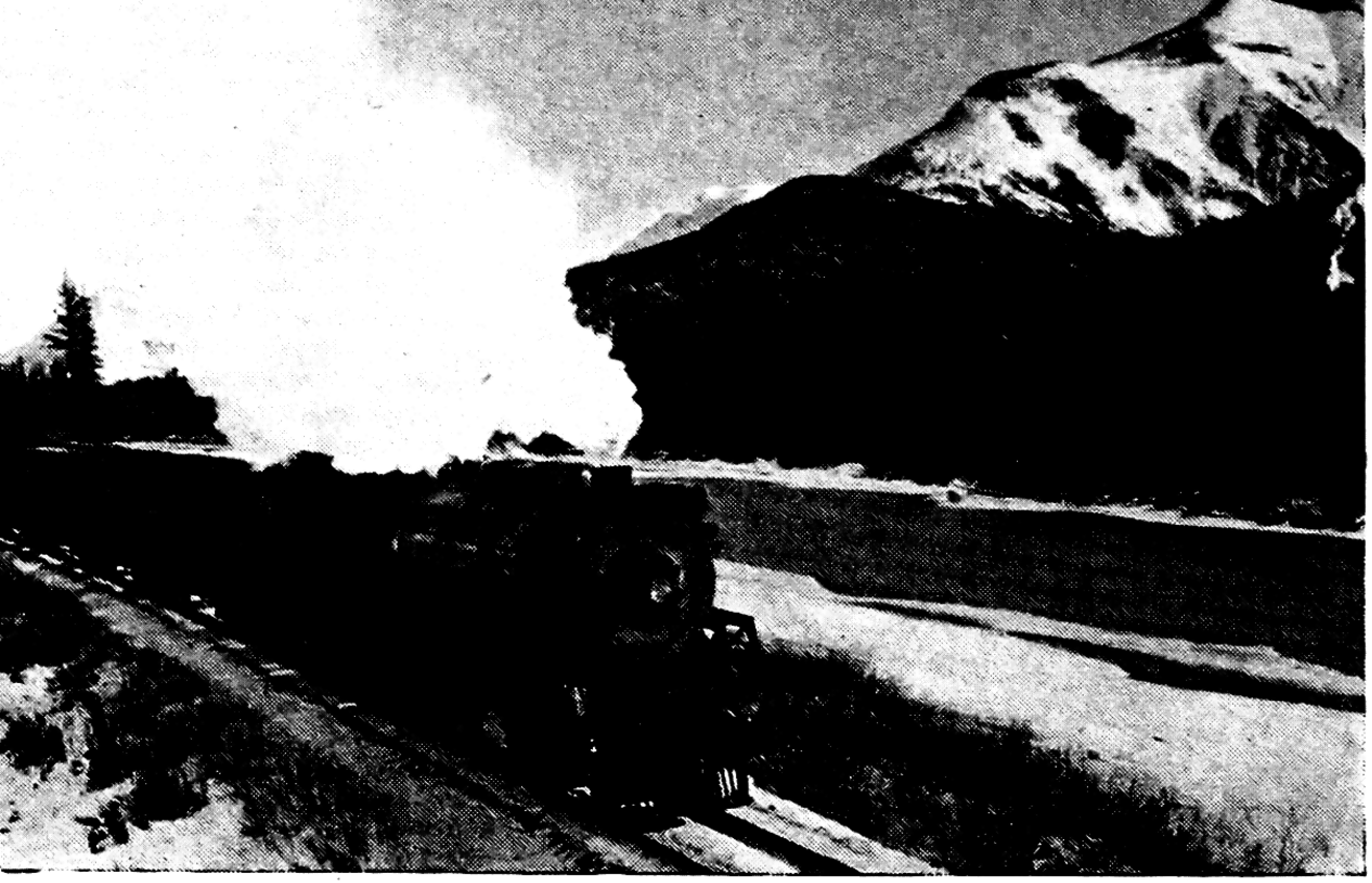


Fig. 60.—A Wheat Train in Winter going West, through the Cordillera

[*Canadian Pacific Photograph*

September and October: during the rest of the year Hudson Strait is frozen over. Fortunately, the very time when it is free from ice is just the time when most of the wheat is moved.

After the beginning of November even the lakes cannot be used for the transport of wheat; their shores are frozen and the lamps in the lighthouses are not lit. Moreover, in winter the harbours in the east of Canada and the more northerly parts on the same side of the United States are blocked with ice. Much of the Canadian wheat is, therefore, then sent west, not east, and is exported from Vancouver whose harbour is never frozen. Fig. 60 shows a wheat train, in winter time, not far from Banff. Snow is on the ground and the water near the banks of the river is frozen. Notice that the wheat is in cars: there are very few open trucks in America.

The amount of wheat which leaves Canada through Vancouver is great and is increasing. If the wheat is sent to Europe the ships sail south to the Panama Canal, which will take very large vessels, through the canal, and then eastwards across the Atlantic.

A great deal of wheat is grown in the United States and some of it is exported but there are so many people in this country that they need most of their wheat for themselves. Some of it from Montana, North Dakota and South Dakota, is taken, like the Canadian wheat, to ports on Lake Superior and sent across the lakes in whale-backs.

Some of it is taken by rail right to the coast. If it is sent to the east coast all the way by rail, it will have to pass through Chicago and round the southern end of Lake Michigan. We have already seen that cattle, pigs and sheep are sent in large numbers to Chicago. Many other things also go to the same city. It is in a very convenient situation for their collection as thirty-nine different railways meet at this spot.

The wheat collected at Chicago does not stay there ; it has to go farther to the east. It must therefore go over or round the highland that lies along the eastern side of America. This highland is not so high as the Cordillera of the west but still it is difficult to cross. The easiest way through it is by means of the St. Lawrence.

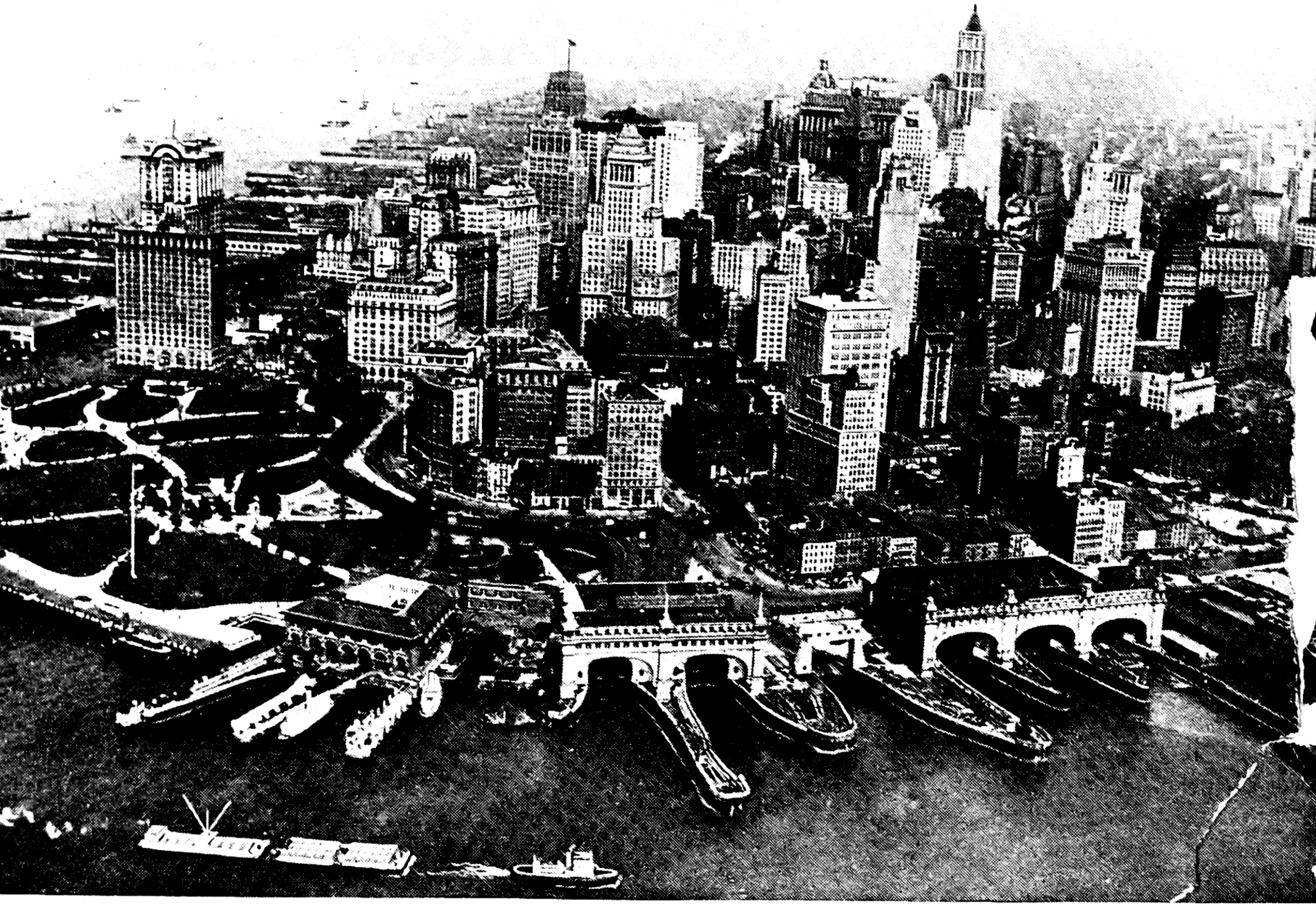
There is, however, an easy land way. This goes through the valleys of the Mohawk and Hudson rivers to New York at the mouth of the Hudson.

American wheat that goes east by the lakes is landed at Buffalo and sent by car to New York.

That which goes via Chicago also passes through Buffalo and then follows the same route to New York.

New York, like Winnipeg and Chicago, is at the meeting point of important roads. These come from (1) Montreal by the valleys of the Champlain and the Hudson ; the big open space between the hills in the distance in Fig. 59 is the valley of the Champlain, (2) the Great Lakes by the valleys of the Mohawk and the Hudson, (3) south along the coast, (4) all over the world by sea.

New York has a magnificent harbour, into which the tides sweep every day, and is so far south that, though there is sometimes ice on the water, it is never ice-bound. There are docks, some of which can be seen in Fig. 61, big enough for the largest vessels at all stages of the tide, and room in the quiet waters for all the ships of all the trading nations of the world. Here are oil tankers, fruit ships, sugar and lumber carriers, liners from everywhere, in fact, almost every kind of vessel



[Topical

Fig. 61.—The Southern End of Manhattan Island, New York

except a sailing ship and even a sailing ship may be seen at times.

Fig. 61 shows the southern end of Manhattan Island, the business centre not only of the city but of the United States also. In the oldest part, which is nearest us, the streets wind about but elsewhere they are at right angles to each other like the roads and fences we saw in the corn belt; here are the banks and a large number of great offices. There is little land on which to build, but there is solid rock for foundations, so many buildings tower up to the sky. In some of these enormous skyscrapers there are as many people as in a small town. Many people live in great blocks of flats built of concrete and steel but thousands of the workers live outside the city of New York and travel backwards and forwards every day by tube.

People and goods from the west can reach New York on its island either by tunnel under the Hudson R. or by great ferries across it. In the foreground of Fig. 61 are some of the docks at which the ferries arrive. The ferries have gates at the front and as soon as they are opened the passengers walk ashore. If they land at the dock in the centre of the foreground they can go at once to a railway that will take them to their destination. Goods are moved from one part of the harbour to another on lighters such as those seen in the very front of the picture. These lighters are pulled by tugs and each one carries a number of cars like those in Fig. 56. This saves having to move the grain itself. On the left of the picture we can see some of the docks that border the Hudson R. for miles. It is at these docks that the big ocean vessels lie to receive or discharge their cargoes.

To this great world market ships come to fetch away the many things that are produced in America. Much of the Canadian wheat crop leaves the country through New York and we could have brought our crop from Saskatchewan to this port had we so wished.

Here, at the end of this book, let us remember that the world is full of people working and of things moving. The moving of things from one place to another is due to trade or commerce. Crops and other goods are sent from places where there is too much of them to places that have too little. Nearly every part of the world has something that some other people need. Hence everybody has need for everybody else. In these days, not even the Eskimo, as a rule, lives " all by himself." He exchanges the furs that other people want for needles, guns, gramophones and sewing machines that he wants but cannot make The people of the world are all linked together.

WORK TO BE DONE

1. Where are the largest pieces of high ground in North America? Which is the highest?

2. Measure the length of Lake Superior from east to west. Then measure the length of England from Berwick to Lands End. Which distance is the greater and by how much?

3. Measure the distance that a boat sails (*a*) from Fort William to Montreal, (*b*) from Montreal to Liverpool.

4. What kinds of trees are there in Fig. 59? What do they tell you about the climate?

5. About how wide is the St. Lawrence in Fig. 59?

6. Describe a skyscraper.

7. Name four ways in which wheat can be taken from Saskatchewan to an ocean ship.

8. At what times of the year does the wheat go by each of the ways you have mentioned in the last question?

9. What routes meet in New York?

10. What do you know about the climate in New York?

11. With the help of Fig. 57 make a list of the chief wheat States in the United States and the chief wheat provinces in Canada.

SUMMARY OF BOOK II

REAL GEOGRAPHY

SUMMARY

Chap.	Title	Subject	Area Covered
I	The Eskimo of Baffin Land	An Eskimo Settlement in N. of Baffin Land	Arctic N. America
II	The Fishermen of Newfoundland	Newfoundland Fishing Village	N.E. Coast of N. America
III	Lumbering	Lumber Camp in Temiskaming, Ontario	Forest Areas of Canada.
IV	The Wheat Farmer	Wheat Farm near Regina	The Prairies
V	Crossing the Cordillera	Journey from Regina to Vancouver	Western Canada
VI	Corn	Corn Farm in State of Illinois	Central U.S.A.
VII	Cotton	Cotton Plantation in Alabama	Southern U.S.A.
VIII	Fruit and Films	Fruit Ranch near Fresno; Los Angeles	Western U.S.A.
IX	Cattle for Chicago	Four Farms in S.W. Kansas	Western Plains of U.S.A.
X	Shipping Wheat	Transport of Wheat from Prairies to Port	S.E. Canada and N.E. U.S.A.

Note.—*Names* of places are given

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SUMMARY

OF BOOK II

Geographical Ideas Incorporated in the Text

Climate very cold: bare land: snow: glaciers: sun above horizon all day at midsummer: below at midwinter: no trees, little vegetation: hard life which depends on sea.

Cold winter with snow, warm summer with rain : coast, bare : interior, forests : codfishing : sealing : simple life : Greenland ice sheet : icebergs.

Cold winter, warm summer : spring floods in rivers : lumbering and uses of wood : situation of Canadian lumber areas.

Low relief, dry summer, very cold winter, hot summer : few trees : wheat farming : ploughing, sowing, reaping with machines : elevators.

Mountains and valleys : water erosion : lakes and canyons : vegetation varying with height : lumbering different from that in E. lands : salmon fishing : coast warm in winter.

Flat land : straight roads : absence of stones in soil : cold winter, hot summer : thunderstorms : domestic animals : crops : corn : mechanized power cultivation.

Flat land : warm winter : hot wet summer : natural forest : negroes and negro houses : crops : cotton : man-power cultivation.

Flat land with mountains east and west : sunshine : warm winter : very dry hot summer : irrigation : fruit growing : houses : Spanish descent but no impress : mixed population : American cities : more rain in north.

Flat : dry all year, hot summer, winter cool : natural vegetation grass with trees by rivers : cattle : water from rivers or wells.

Elevators : whaleback vessel : water transport interrupted by frost in winter : canals : locks : different routes : docks : skyscrapers.

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at the beginning of each chapter.

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